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PHOTO: IWAN BAAN

ON THE COVER:
The UK Pavilion at Shanghai Expo, p34

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EDITOR'S LETTER

UNDERESTIMATING DEMAND

Speaking at IAAPA, Tom Williams, CEO and chair of Universal Studios told delegates: "I've made a new best friend and his name's Harry Potter." With attendances at Universal Islands of Adventure up by 36 per cent since the opening of the Wizarding World of Harry Potter in Orlando last June, it's easy to see why.

In this issue, BRC's Brad Shelton mystery shops the new attraction and gives it a 9+/10 rating (see p44), praising the rides, the retailing and the overall experience. I agree with him wholeheartedly – the attraction is world class and great fun. The only glaring problem is that it's just too small and visitors who turn up expecting a full-blown Harry Potter park may be disappointed in this respect.

Essentially, it's comprised of two existing rides which have been rethemed, plus an amazing new-build ride – the innovative Harry Potter and the Forbidden Journey experience – which is built on a Kuka robotic arm system and housed in a dramatic rendering of Hogwarts castle. Added to this is a great retail and F&B operation in a 'street' which borrows elements of Hogsmeade and Diagon Alley and a slice of the Hogwarts Express train, which is on show at the entrance.

> It's an unusual challenge for the industry, but with Harry Potter, we may be faced with the first attractions franchise which has seriously underestimated demand

Undoubtedly, Universal will be fast-tracking an expansion to open as soon as possible and, having seen the success of the Orlando attraction, plans will be being hatched behind closed doors for more Harry Potter properties around the world.

It's been a long time coming, but at last the UK will get its own Potter attraction, following the announcement that Warner Bros is to invest £100m (E118m, US$161m) in Leavesden Film Studios near London – where the films were made – to upgrade the studio and create an attraction, which will include design by Thinkwell.

However, just as Universal underestimated the interest which the Orlando attraction would generate, so it seems Warner Bros may under-build at Leavesden: plans are for 'two new sound stages with movie memorabilia and a backstage tour', but whether something this limited will satisfy the millions of Harry Potter fans is highly unlikely.

In Florida, Universal has had to deal with being overrun by enthusiastic fans, with – for example – hour-long queues of people buying Butterbeer and a million pints being sold in the first seven months. One of the only complaints heard about Wizarding World of Harry Potter is that it can simply get too crowded.

On p28, Continuum's Juliana Delaney argues that the Orlando attraction represents the zenith of the attractions industry, while Brad Shelton says it's "set a new benchmark for the theme park industry". It's an unusual challenge, but we may be faced with the first attractions franchise that has seriously underestimated demand.

Liz Terry, editor, attractions@leisuremedia.com

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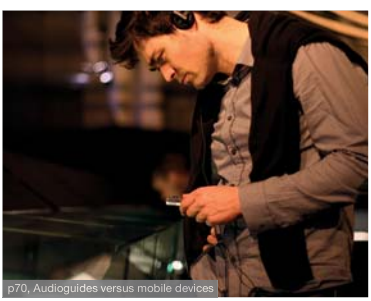
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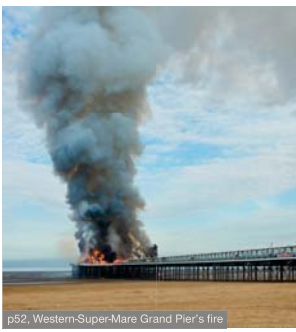
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For suppliers of products and services in the worldwide attractions industry, turn to page 80

New Interlink flume ride for Indonesian theme park

TOM WALKER

Water ride company Interlink is to supply a two-lift Super Flume to an indoor leisure project in Bandung, Indonesia.

The custom-built attraction – scheduled to open in 2011 – will feature double-seat, Zodiac-style boats designed to the client's specifications and which will be available on future ride installations elsewhere.

The ride will be fully themed in an Aztec style, incorporating a large volcano feature, rock work and other related décor and surroundings.

An artist's impression of the new attraction

Thinkwell to design UK Harry Potter attraction

TOM WALKER

US-based exhibition design company Thinkwell has been appointed to design the Harry Potter visitor attraction at Leavesden Studios, Hertfordshire, UK.

Although exact details of the attraction are yet to be revealed, Thinkwell said the site will give the general public the ability to tour several of the original Harry Potter film sets.

The studios, near the town of Watford, were acquired by Warner Bros in November last year (2010).

Premier Rides opens European office

TOM WALKER

US-based ride manufacturer Premier Rides has opened a new office in the UK as part of the company's strategy to expand its sales in the European market.

The office will serve primarily to support the after sales service for Premier's push into the European market.

Jim Seay, president of Premier Rides, said the company is presently working on a number of projects in Europe and wanted to ensure clients have access to its technical team and support on all levels.

CDA sells seven attractions

TOM WALKER

The Pleasurewood Hills amusement park near Lowestoft in Suffolk has been sold for an undisclosed sum by owners Compagnie des Alpes (CDA).

All seven sites have been taken over by French company HIG

The site is one of seven sold on the same day by CDA to private equity fund HIG. Capital France, the others being Bagatelle Park, the Grand Aquarium Saint Malo, the Parc des Mini Châteaux and the Aquarium du Val de Loire, all in France; the Aquapark Le Bouveret in Switzerland; and the Avonturenpark Hellendoorn in the Netherlands.

The deal established a market value for the group of €29m (£24.8m, US$39.6m) and HIG will now proceed with a five-year, €20m (£17m, $27.3m) expansion programme across all the sites. Between them, the parks saw nearly 1.6m visitors in FY 2009/2010, earning €28.3m (£24.2m, $38.6m) in sales and €4.9m (£4.2m, $6.7m) in EBITDA over the same period.

Created in 1993, HIG specialises in small and mid-sized companies in both Europe and the United States, with more than €7bn (£6bn, $9.5bn) under management.

Wannado City closes its doors

TOM WALKER

Wannado City, the children's theme park at the Sawgrass Mills Mall in Sunrise, Florida, US, closed in January.

The closure has resulted in 314 people losing their jobs at the 140,000sq ft theme park, which opened in July 2004.

The company said in a statement that "throughout the years, [we] went through many operational changes and company restructures, trying to achieve a business that would at least break even," referring to the fact that the firm has been in financial difficulty ever since its inception.

The Wannado City attraction was aimed at children and their families

The site was aimed at children aged between four- and 11-years-old and was designed to allow them to live out their dream careers. The interactive concept encouraged role-playing and featured 60 different venues with over 250 careers for children to choose from.

Steelman to design Happyland park for Vietnam

TOM WALKER

Las Vegas-based Steelman Partners has signed with Vietnam's Khang Thong Group to be the designer and architect for a five-star Happyland Hotel in Vietnam. Steelman is also the creator of the masterplan for the Happyland Theme Park and Happyland Central retail district, with the former boasting an exhibition centre, a large waterpark, a dance and exhibition hall, indoor and outdoor cinemas and theatres and a cultural centre, as well as an art museum.

Sustainable concept for Disney

TOM WALKER

Euro Disney and Groupe Pierre & Vacances Center Parcs have unveiled Les Villages Nature de Val d'Europe (Villages Nature), their new sustainable vacation destination concept.

Central to the concept – which envisages 90 per cent of the resort retained as green space – is 'harmony between man and nature', reflected in both the accommodation and the activities offered.

The new concept is based on 'harmony between man and nature'

The latter would focus on gardening, boating, hiking, horse riding and walking.

The site will be 6km (3.7 miles) south of Disneyland Paris and created around a 3,500sq m (37,670sq ft) geothermal lagoon. An adjacent waterpark is planned to be the largest in Europe. The first 175 hectare (432.4 acres) phase is set to open in 2015 and will include the construction of 1,730 apartments or cottages within three villages – two of them around the lake and one in a nearby forest. A total of 70,000sq m (753,400sq ft) of indoor and outdoor leisure facilities is also planned.

The resort will occupy up to 500 hectares (1,236 acres) and take 20 years to complete.

Merlin expands into Australia and NZ

TOM WALKER

UK-based Merlin Entertainments Group has acquired the tourism and attractions arm of Australia-based Village Roadshow in a deal worth AU$115m (US$114m, £73m, €85m). The deal includes the Sydney Attractions Group and Kelly Tarlton's Underwater World and marks Merlin's entry into the Australian and New Zealand leisure markets.

Following the deal, Merlin will operate three Sydney attractions – Sydney Aquarium, Sydney Wildlife World and the Skywalk.

New management for eight CNL parks

TOM WALKER

CNL Lifestyle Properties has signed new management agreements for eight of its American amusement parks.

Herschend Family Entertainment will be managing Elitch Gardens in Denver, Colorado, and Darien Lake in Buffalo, NY, adding to the 24 properties the company already either owns, operates or partners.

Frontier City and White Water Bay, both in Oklahoma City, and Splashtown in Houston will be managed by Premier Attractions Management. Amusement Management Partners – which already manages eight CNL FECs – is to operate Magic Springs and Crystal Falls in Hot Springs, Arkansas.

Darien Lake is among the parks that will be managed by Herschend

Waterworld in Concord, California is to be managed by Palace Entertainment, which currently owns/operates 11 water parks, 21 FECs and eight theme parks across the US.

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The trend for socio-political exhibits grows

ARMIN FREY

Most of Europe's 400 science centres and science museums try to make topics and phenomena from the natural sciences and technical fields accessible to a wider audience. In recent years, however, several larger facilities were created, which cover a significantly broader topical spectrum.

Odysseum Cologne in Germany opened in April 2009 and not only covers the natural sciences and technical topics, but also socio-political questions. This makes Odysseum the first facility in the world which engages with the topic of globalisation on an ongoing basis as part of an exhibition.

In June 2009, another facility opened in Germany, the Klimahaus in Bremerhaven, which diverts from classic science centre topics and focuses instead on climate issues.

In 2007, the Liberty Science Centre in Jersey City, New York, US re-opened after a renovation phase and aims "to connect people of all backgrounds to pivotal science and society issues". Less focus on natural sciences and technology and more focus on the socio-political field seems to be the trend, and visitor numbers support this.

I'm of the opinion that any message can be conveyed using relevant analogies in the form of an interactive exhibit. A disadvantage of topics which are hardly known to the public is, however, that explaining them requires more staff than most facilities initially anticipate during the planning stage.

As well as the content itself, there's also a new trend in presentation, with more money being spent on theming. Each of the event worlds at Odysseum has a different appearance – visitors walk in a rain forest, around a giant globe, through an oversized computer circuit board and into a modern lab. The Klimahaus has reproduced several regions of the Earth showing its climatic characteristics. At the Liberty Science Centre, visitors can balance on a narrow steel beam, 6m (20ft) off the ground, like a steel worker.

It's almost like trench-warfare at science centres with the need for increased theming being used as ammunition in the battle for increased spending. I'm following this debate with interest and eagerly await the results.

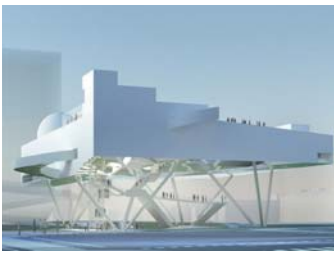
Armin Frey, managing and scientific director of SK-Foundation CSC, which operates Odysseum Cologne

Science centre design winner

TOM WALKER

An international competition for the design of a new science centre in Serbia has been won by a team from ZT GmbH Architekten of Graz, Austria, led by Wolfgang Tschapeller.

The design competition was launched last year by the Serbian Ministry of Science and Technology. It was organised by the Union of Architects of Serbia – together with the Association of Belgrade Architects.



An artist's impression of the winning designs by ZT Architekten

The brief concerned the design of the centre - a complex including exhibition and conference spaces as well as a planetarium - to be located on a 11.66ha (29 acres) site of which 20,915sq m (225,127sq ft) had been allocated for the construction of the new centre.

Competitors were also required to make proposals for the urban planning of the entire site as a science park, which is to become part of Belgrade's high-tech sector.

The winning project - selected from a total of 232 entries - envisages the Centre for the Promotion of Science as a 'floating city', with only its supporting pillars and access walkways touching the ground.

Science North revamped, boss steps down

TOM WALKER

Jim Marchbank, CEO of the Science North science centre and tourist attraction in Sudbury, Ontario, is to step down in May after 25 years in the post. He joined Science North in March 1982 as director of development and became CEO in 1987.

The centre is currently undergoing a redevelopment of its facilities

During his tenure, Science North expanded to take over the former Bell Grove Arena and convert it to a special exhibits hall, as well as adding an IMAX theatre. Marchbank also led the development of the C$22m (£13.8m, €16.3m, US$22.2m) Dynamic Earth project that recently added a digital Planetarium to the science centre.

The news comes as Science North is preparing to reopen following a redevelopment.

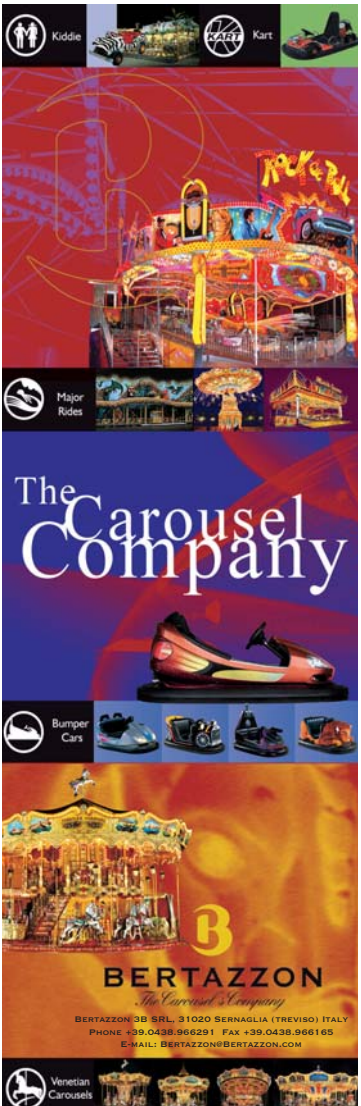
The revamp includes complete renewal of the Northern Ecosystems exhibit on the third floor, the installation of a new 4D show experience in the Vale Cavern, and a new Climate Change Show object theatre.

Science centre plans for Yorkshire college

TOM WALKER

The Star Centre at the £35m (€41.3m, US$56.4m) Keighley Campus of Leeds City College in West Yorkshire, UK, is to be opened to visits by the public. The centre contains a planetarium and mock-ups of a spaceship, mission control, a lunar landscape and a space lab. It had previously been available to school and voluntary group parties only.

The move is partly to generate income and could be followed by other parts of the college being opened to the public regularly.



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Changing to BST could save children's lives

MARTIN BARRATT

I joined BALPPA with some trepidation, knowing that I had no experience of politics, and that political lobbying is such a large part of our activities. But, it's been a joy learning how lobbying works and how business is conducted in the Lower and Upper Houses.

However, getting closer to the political world has taught me that logic and rationality aren't always important when our parliament comes to make decisions. I've heard that the only sure-fire way of getting a politician on your side is to make him afraid of what would happen if he wasn't, but up til now that's only hearsay.

The recent second reading of the Daylight Saving Bill is a case in point. The reasons for the introduction of single/double summertime, as it's also known, are very persuasive. A massive boost to the tourism industry in terms of jobs and income are the benefits we expect from it. But on top of that, the change will prevent 100 deaths each year on our roads – and many of those saved will be children. It will cut power consumption and reduce emissions and it will give UK citizens an average of 250 extra hours of daylight to be enjoyed. We were delighted when the bill passed its second reading by a large majority. However, we're unhappy the government didn't support it.

The bill was introduced by Conservative MP Rebecca Harris, and most Conservatives in the House voted for it. Labour decided to abstain, leaving only the SNP and a few Lib Dems from the North of Scotland to vote adversely. Nevertheless, the government decided to come out against it.

Logically this was surprising. The bill only called for an enquiry to determine whether the change would bring benefits to all parts of the UK, so what did the government have to lose by supporting it? One conclusion is that they did it to appease those who opposed it, knowing that their support would be essential when it came to bigger issues, like college fees. Should we blame the government for that? Probably not. After all, they know the depth of the cuts necessary to drag us out of recession.

But if I was one of those who'd voted against the bill, I'd find it hard to sleep, thinking of the two families a week mourning for a lost child killed on our roads.

Martin Barratt, chief executive, BALPPA

Drayton reveals new coaster

TOM WALKER

Drayton Manor theme park near Tamworth, UK has revealed details of its new children's roller coaster.

To be called Ben 10 - Ultimate Mission (named after the popular animated tv series), the ride has been designed and built by Dutch manufacturer Vekoma.

Similar to the Vekoma Boomerang, the coaster features an out and back track layout, launching riders forwards on their first tour of the track before they return, travelling backwards along the same route to the station. The track will be 180m (590ft) in length with a highest point of 20m (66ft) and a maximum speed of 34mph (55 kph). It will have an hourly capacity of around 850 riders.

The theme park is also on schedule to open its new 150-room hotel during summer 2011.

The new coaster has been named after the popular tv show *Ben 10*

The hotel will feature a wide range of themed bedrooms, including some profiling characters from the Thomas & Friends series.

Also on offer will be extensive conferencing and hospitality facilities, complementing those already at the theme park, plus two restaurants, a coffee shop and a crèche.

Work starts on Kent animal park overhaul

PETE HAYMAN

Port Lympne Wild Animal Park near Hythe, Kent, has revealed that work is underway on a £1m (€1.2m, $1.6m) scheme to transform the attraction's infrastructure.

The Aspinall Foundation is aiming to broaden the animal park's national appeal, while also differentiating its offer from that of sister attraction Howletts, near Canterbury.

Work will see Port Lympne's existing layout - 500 acres (202.3 hectares) on foot and 100 acres (40.5 hectares) of safari - reversed to provide 500 acres (202.3 hectares) of safari.

The 'on foot' areas will be divided into four zones, which will allow visitors to view its main exhibits and interactive displays.

The park's infrastructure will be transformed during the works

Jacksons Fencing, Moons, The Lapa Company, SSE Contracting, Rod Barlow (plumbing) and BW May are among the contractors working on the scheme.

Daylight saving bill passes second reading

TOM WALKER

Plans to move British clocks forward during the winter months to ensure lighter evenings received a boost after the private members bill passed the second reading at the House of Commons.

The campaign to introduce 'double summertime' has been supported by the Lighter Later group, which argues that moving clocks forward would boost tourism and make roads safer. BALPPA is one of the bill's most enthusiastic supporters. (See column, left.)

Conservation works – let's not waste time

LINDA CENDES

Animals are at the heart of what makes zoos and aquariums compelling attractions. Therefore, the need to protect animals is a fundamental goal. This mission has grown more important. A recent study found that one in five vertebrate species is threatened with extinction. Of these, 34 species are considered extinct in the wild.

Reintroduction programs, where animals raised or rehabilitated in zoos or aquariums are released into their natural habitats, are powerful tools used for re-establishing or increasing wild animal populations.

> "The population has since grown to 250 adult animals at 12 facilities, and more than 7,000 tadpoles have been released."

Perhaps the most famous success story is the black-footed ferret reintroduction program. The last 18 black-footed ferrets were placed in the care of AZA-accredited zoos in 1985. These animals have successfully reproduced, and now more than 800 live in North American prairies.

The largest land bird in North America, the California condor, was down to 23 in 1982. Management of these animals in zoos increased the population, and now there are 180 California condors living in the wild.

In 1994, Wyoming toad was extinct with one managed population remaining. The population has since grown to 250 adult animals at 12 facilities, and more than 7,000 tadpoles have been released. Last year, toads were heard calling in Wyoming for the first time since being declared extinct.

Researchers and staff at zoos, aquariums and conservation programs are saving species to preserve our planet's biodiversity. It's working, but we don't have time to waste.

Linda Cendes, communications assistant, Association of Zoos and Aquariums

25-year plan for Oregon Zoo

TOM WALKER

The Oregon-based SRG Partnership is to lead a team tasked with developing a 25-year master plan for Oregon Zoo.

SRG, together with CLR Design and Atelier Dreiseitl, will spend a year evaluating operations at the zoo and creating a masterplan for projects funded by the US$125m (£80.5m, €92.5m) zoo bond measure passed in 2008. The plan is expected to be completed by the autumn of 2011. Ahead of the zoo bond measure, zoo staff identified animal care and programme requirements, along with target budgets for projects which included six animal exhibits, a new educational facility, upgrades to pipes, roads and energy systems and a new veterinary clinic. The consultancy team will also advise on sustainability initiatives including harvesting rainwater, improving heating and cooling systems, and reclaiming and recycling water from animal exhibits.

Six new animal exhibits and a veterinary clinic are to be added

A new layout of zoo facilities will be mapped out and schematic designs, illustrations and descriptions created for each project. The new designs will improve visitor circulation.

New aquarium for HK's Ocean Park

TOM WALKER

Hong Kong's Ocean Park is launching a number of new attractions - including an egg-shaped aquarium - as part of plans to increase visitor numbers at the site by up to 15 per cent during 2010.

The new aquarium opened last month and has been designed by Pritzker Prize-winning architect Frank Gehry. It features nightly water shows composed by Peter Lehman and is part of a HK$5.5bn (£454.5m, €523m, US$706.5m) redevelopment plan announced in 2005.

The new Aqua City aquarium has 5,000 fish representing 400 species

Ocean Park chair Alan Zeman told local media that the Aqua City aquarium houses approximately 5,000 fish representing 400 species including sharks, tuna and devil fish in a 5.24m litre (1.15m gallon) tank. Zeman added that Ocean Park - which received a record 5.4m paying visitors last year - also plans to boost revenue through secondary spend by opening a restaurant and shops at Aqua City.

Edinburgh Zoo secures panda agreement

TOM WALKER

The Royal Zoological Society of Scotland (RZSS) has secured a deal with the Chinese Wildlife Conservation Association to bring two giant pandas to Edinburgh Zoo. Tian Tian and Yangguang will be under the custodianship of the RZSS at the attraction - the first giant pandas to reside in the UK for 17 years.

Scottish culture minister Fiona Hyslop said: "The arrival of the pandas is expected to bring significant economic benefits for Scotland in terms of tourism."

Council hands over Turner Contemporary

TOM WALKER

Margate UK's Turner Contemporary, a new £17.4m (€21m, $28m) gallery dedicated to artist JMW Turner, has been handed over by Kent County Council (KCC).

Construction work is now complete at the David Chipperfield-designed attraction, which been transferred over to the trust that will operate the venue.

R Durtnell and Sons has delivered the new building, which will feature 7505q m (8,072sq ft) of gallery space across two floors. The gallery will open in April 2011.

The designs by Diller Scofidio + Renfro

Los Angeles art museum designs revealed

PETE HAYMAN

Diller Scofidio + Renfro's designs for the Broad Art Foundation – a new contemporary art museum in Los Angeles, US – have been unveiled.

Located on Grand Avenue, the three-storey attraction will feature a honeycomb "veil" that wraps around the building and will house around 2,000 works.

The 120,000sq ft (11,148sq m) museum will feature 40,000sq ft (3,716sq m) of column-free gallery space and a lecture hall seating up to 200 people.

Florida's US$36m Dali Museum opens

TOM WALKER

A US$36m (£23.2m, €27.8m) museum in St Petersburg, Florida, US - dedicated to the work of Spanish artist Salvador Dali - opened on 11 January.

The Dali Museum has been designed by Yann Weymouth of HOK Architects to include more than 900 triangular-shaped glass panels.

More than 2,100 works by the artist, including nearly 100 oil paintings, will be on show at the attraction - the largest collection of Dali's work outside Spain.

Palace of Fine Arts reopens

MARTIN NASH

The Palace of Fine Arts in San Francisco, California, US has reopened following a seven-year, US$21m (€15m, £13.1m) redevelopment of the gallery.

The move was marked by an event held by the San Francisco Recreation and Parks Department and the non-profit Maybeck Foundation, a private group which partnered with the city on the project. Funding was a combination of city and state funds, plus contributions from more than 1,200 donors.

The Palace is designed to resemble a Roman ruin reflected in a lake

The monument, the only structure remaining from the Panama-Pacific International Exposition of 1915 and designed to resemble a Roman ruin reflected in a lake, has needed renovation work in the past. It was rebuilt in the 1930s and 1960s and in 1990 a campaign was mounted to add exterior lighting.

Among other work undertaken as part of the latest scheme, repairs were carried out to the palace's dome and the nearby lagoon was restored and landscaped.

The entire site was also seismically upgraded to withstand earthquakes and new entrances and pathways have been added.

AUS$7m bequest to Australian art gallery

MARTIN NASH

The Art Gallery of New South Wales (AGNSW) in Sydney, Australia, has benefited from the donation of a collection of 16th-18th century artwork said to be worth around AUS$7m (£4.4m, €5m, US$7m).

Comprising more than 70 items, the Ken Reed bequest will - said Edmund Capon, AGNSW director - "represent a most significant addition to the gallery's European collection".

The gallery in Sydney will benefit from a collection of 47 new paintings

Reed, a Sydney-based retired lawyer, says that he was inspired to create the collection by visits to the gallery as a child. It is to receive 25 old master paintings, 25 pieces of 18th-century porcelain and 22 pieces of 16th-17th century Italian maiolica.

Several of the pictures will complement the gallery's existing collection, with a still life by Abraham van Beyeren set to become, according to Richard Beresford, senior curator, one of the greatest stills in its portfolio.

February start for £45m Tate Britain project

TOM WALKER

Tate has announced that work on a £45m (€53.6m, $72.5m) scheme to transform its original London gallery – Tate Britain – is to start in February 2011. Designed to help conserve the Sidney Smith-designed building, the scheme will also entail a major upgrade of the Grade II-listed attraction's galleries.

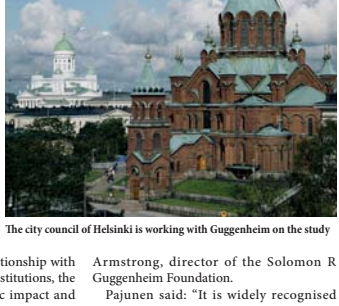
Caruso St John Architects' plans include the reconstruction of nine galleries in the southern part of the building and the revamp of its main entrance on Millbank.

Guggenheim plans for Helsinki

TOM WALKER

The city council of Helsinki is looking into the possibility of establishing a Guggenheim museum in the Finnish capital. The council has teamed up with the Solomon R Guggenheim Foundation to produce a feasibility study.

The study will explore the mission and structure of a Guggenheim Helsinki – a museum of visual culture in Finland. Once completed, a report will be produced outlining the museum's exhibition and education programmes, prospective relationship with Helsinki's existing visual-art institutions, the museum's potential economic impact and the scope of the Guggenheim Foundation's involvement in its operation.



The city council of Helsinki is working with Guggenheim on the study

Jussi Pajunen, mayor of Helsinki, is driving the project alongside Richard Armstrong, director of the Solomon R Guggenheim Foundation.

Pajunen said: "It is widely recognised that cultural destinations can help drive economic growth for a country, provided they are created within an intelligent overall plan for development."

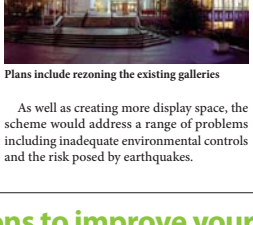
Royal B.C. Museum plans expansion

TOM WALKER

The Royal BC Museum in Victoria, BC, Canada is seeking approval for the rezoning of its current site as the first step in a major redevelopment scheme.

At the moment, the site is zoned for residential use and a new Comprehensive Zone, with an expanded boundary, could be tailored to the potential needs of the museum for the foreseeable future.

The museum has the care of more than seven million plants; animals; fossils and geological specimens; and archaeological and historical artifacts, plus an extensive archive of maps, charts and architectural plans; photographs; paintings; drawings and prints; audio tapes; film and newspapers.



Plans include rezoning the existing galleries

As well as creating more display space, the scheme would address a range of problems including inadequate environmental controls and the risk posed by earthquakes.

GMP-designed Hanoi Museum opens in Vietnam

TOM WALKER

Hanoi Museum, a museum dedicated to Hanoi's history, has opened in Vietnam.

The 30,000sq m (323,000sq ft) museum is located in a specially laid out park with water features, exhibits from the history of Hanoi, and a reconstructed traditional Vietnamese village. The museum is next to the National Convention Center which, like the national parliament in Hanoi, was designed by architects von Gerkan, Marg und Partner (GMP) and planned in cooperation with Inros Lackner.

The Pope's former family house in the city centre

John Paul II museum planned for Wadowice

TOM WALKER

Plans are afoot in Wadowice, Poland to convert the childhood home of Pope John Paul II into a new museum.

The existing museum shut on 9 September and work began on the 11th. The director of the facility, Fr Paul Danek said that a contract had been signed with a contractor from Krakow, whose credits include renovation of the city's famous Cloth Hall. If the plans are approved by the local council, The museum is expected to reopen in late 2012.

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Do US waterparks need more regulations?

ALEATHA EZRA

As an industry, we may not feel as though more standards and regulations brought about by governmental agencies not well-versed in our industry are needed, but are they?

In 2007, the Centers for Disease Control and Prevention (CDC) launched an effort to develop a model code document called the Model Aquatic Health Code (MAHC) to address health and safety in public swimming pools within the US. The CDC feels the MAHC is needed after reviewing existing swimming pool codes across the US, which revealed a wide and inconsistent range of specifications and standards. Some states have no rules or code at all, while others simply copied documents without knowing the validity of source materials.

> Some states within the US have no rules or code at all, while others simply copied similar documents in circulation without understanding or knowing the validity of source materials

The MAHC project is the CDC's proposed answer to this need. Currently, 12 technical committees are charged with developing a "scientifically based model code that is national in scope, data driven, user-friendly, updated on a continuous basis and includes input from all sectors of public health, all segments of the aquatics industry and the general public".

This process includes the drafting of MAHC modules and their subsequent release for public comment. Industry professionals need to review the modules and offer comment for consideration in any final standards and regulations.

To learn more about the MAHC and review the modules, visit www.cdc.gov/healthywater/swimming/pools/mahc/.

Aleatha Ezra, membership manager, World Waterpark Association

Work begins on Texas resort

TOM WALKER

The City of Roanoke in Texas, US, will begin work on the US$10m (€7.3m, £6.2m) Hawaiian Falls Roanoke – the region's first publicly-owned waterpark. When completed in May 2011, Sacramento-based waterpark operator Hawaiian Falls will lease the park from the City of Roanoke.

The waterpark will have one of the world's largest aqua play structures

At the heart of the 10-acre Hawaiian Falls Roanoke will be Water World, one of the world's largest aqua play structures. The six-storey interactive playground will have 20 slides, including a three-lane racer, a family raft ride, several body slides, 500-gallon and 1,000-gallon dump buckets, numerous interactive pulleys and wheels and water features.

Other attractions at the park will include a 16,000sq ft (1,500sq m) wavepool, a lazy river with rapids and geysers and a water walkway. Roanoke's mayor, Carl Gierisch, Jr, said: "Hawaiian Falls will provide family fun and recreation for all of our residents. We are particularly excited to have a business partner like Hawaiian Falls that centres its business around those that we hold most dear to us."

10 new attractions for Canadian park

TOM WALKER

The Calypso Theme Waterpark in Limoges, Ontario, is to introduce a new aquatic complex featuring 10 waterslides for the 2011 summer season.

Ten waterslides are being added ready for the 2011 summer season

The CA$5m (£3.1m) project will comprise North America's tallest free-standing waterslide tower, with a total height of 90ft (27.5m), offering three new types of slide. At the top of the tower will be four distinct high-speed slides. Two of these will be accessible using toboggan boats, each seating four people in a line, while the other two will feature double inner tubes.

Around half-way up the tower – at 55ft (17m) – guests can access two next generation, WhiteWater West-built AquaLoop slides. They'll start off in a closed-off section featuring a drop floor, before being launched into a vertical drop and continuing on a trajectory that includes a 2.5G loop. Finally, four coiled slides – featuring both translucent and closed off sections – will be accessible at 30ft (9m).

Avoriaz Resort to add waterpark and spa

TOM WALKER

Expansion work has begun on the Avoriaz ski resort in Portes du Soleil, France this month.

The project includes the creation of two resort districts with new accommodation complexes and a large waterpark.

The two new resort districts are Crozats and Amara. Between them they will add nine new Maeva and Pierre and Vacances residences containing more than 40 new apartments.

Much of the new development is scheduled to be completed by December 2011.

Family attraction for Wuzhen

TOM WALKER

A new visitor attraction for families is preparing to open in Wuzhen, Tongxiang, in the northern Zhejiang province of China. Designed by Jack Rouse Associates (JRA), the attraction will occupy two existing buildings approximately 30,000sq ft in size and will feature a number of activities and educational zones.

The key component of the project is a traditional games and play area, where children can learn about and play with toys from 19th century China. The area will include a zone known as Old Wuzhen, which is a kid-sized and cartooned styled version of the original, with various themed play elements – a themed water play area, with a large flow table and some virtual experiences and a large, two-storey climbing structure and cave challenge.

JRA designed the attraction, located in the Zhejiang province

The overall theming for the attraction is based upon Chinese mythology and features characters such as Sun Wukong (the monkey king) and Nezha (a young god).

JRA worked with 321 Experience Consulting and Kingsmen on the development and implementation of the project.

LOOTERS HIT EGYPTIAN MUSEUM

TOM WALKER

A number of precious artefacts and exhibits at The Museum of Egyptian Antiquities in Cairo, Egypt have suffered damage after looters broke into the attraction during the anti-government protests in January.

It is believed that a group of men got into the museum and decapitated two mummies and damaged other items, before the museum was cordoned off by the military as well as another group of protesters wanting to protect the museum.

HLF launches funding strategy consultation

TOM WALKER

A three-month public consultation has been unveiled by the UK's Heritage Lottery Fund (HLF) in order to gather views on its funding strategy between 2013-19.

The consultation will include a number of proposals identified by the funding agency, which will look at how to address "key heritage issues" going forward.

Between 2013-19, the HLF is expecting to receive an increased annual awards budget worth around £300m as a result of planned National Lottery reforms.

HLF chair Dame Jenny Abramsky said: "This is a great opportunity for us to learn how our funding can best help with the challenges ahead.

Jenny Abramsky announced the consultation which begins in April

"We can only devise the very best strategy by listening closely to the partners, funders, organisations and individuals who are involved in and enthusiastic about the UK's heritage." The consultation will begin in April.

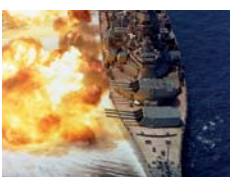
Theme park on racing history opens in Germany

LUKE TUCHSCHERER

A new 150,000sq m (1.6m sq ft) heritage-based indoor theme park, named RingWerk, has opened at the Nürburgring racetrack in Nürburg, Germany.

The €2.3m (£1.9m) park is made up of 10 core attractions, which include an interactive driving experience; a 4D theatre where guests experience the Nördschleife circuit; a shoot 'em up dark ride; and a fully revolving theatre showing historic footage.

UK-based firm DJ Willrich was contracted to complete the detailed design of the audio visual systems and the complete show control, and undertook the installation of the AV and installed and programmed the show control systems.



The ship saw action during World War II

Historic US navy ship in new battle

TOM WALKER

A former US navy battleship is the subject of opposing schemes to convert the vessel into a tourist attraction.

The Historic Ships Memorial at Pacific Square wants to see the USS Iowa moved to Mare Island in Vallejo, north of San Francisco, while an application by the Pacific Battleship Center - based in Los Angeles - would prefer that it be moored in the port suburb of San Pedro in the south of the city. A spokesperson for the Historic Ships Memorial said that they put in an application for the ship in 1998 when it first came up for possible donation. The navy opened the application process again last year, at which point the Pacific Battleship group entered its bid.

Both organisations say they have funding in place or are committed to meet the costs associated with the ships' transfer, conversion and upkeep. A decision by the US Navy is expected later this year.

The ship, long out of use and currently mothballed as part of America's reserve fleet, supported US forces fighting in the Pacific during World War II.

THE DUCHESS OF NORTHUMBERLAND

Already a successful visitor attraction, and the location for the Harry Potter movies, Alnwick Garden is set to make a killing when its Poison Garden is the setting and subject of its own films. Kathleen Whyman finds out more from its creator, The Duchess of Northumberland

"Datura is my favourite flower," the Duchess of Northumberland smiles. "It's also called Angel's Trumpet because of its huge bells. It's very beautiful and has a wonderful smell." My amiable view of the plant alters dramatically as she explains that every part of the plant is a killer. "It's been used for centuries as the equivalent of a date rape drug," she says. "The Aztecs put datura in tea and gave it to sacrificial victims so they'd be more compliant."

It's no wonder that with stories like these about its plants, The Poison Garden at Alnwick Gardens has become such a popular attraction and has succeeded in the most challenging of tasks – holding the attention of school children. It's also grabbed the attention of the film industry, following the publication of *The Poison Diaries*, the first of three books about a teenage boy who communicates with plants and understands their fatal powers.

PLANT LIFE

The duchess, who prefers to be called Jane, has transformed Alnwick Garden over the past 15 years from the private grounds of Alnwick Castle to a 42-acre space for the community, where visitors are actively encouraged to walk on the grass and touch the plants.

She knew from the start that she wanted the garden to be different, so, although intrigued by apothecary gardens, she went for a different angle. "The same plants that cure, almost always kill," she says. "Most children switch off when you're explaining how a plant can be used to cure a person. The stories about killing are much more exciting, so we get their attention with these, then talk about the curing elements."

These terrible stories include details of the deadly plant strychnine. It can be woven into fabric and when the clothes scratch the wearer's skin, it gets into their blood stream and poisons them, causing the muscles to tear away from their flesh. A woman in Italy was executed in the 1600s for helping 400 women kill off their husbands to get their inheritance. And there are many stories about women in the 40s, 50s and 60s buying it as rat poison, but using it on their husbands. Despite its fatal consequences though, the plant can be used to thin blood, so is also curative.

Rather than giving out fact sheets on the 200 plants, tour guides animatedly recount the stories. These are regularly updated to ensure they stay interesting and include

The Duchess of Northumberland guards the deadly plants that lie within The Poison Garden

ABOUT THE ALNWICK GARDEN TRUST

The Trust seeks to dramatically change the cultural environment for the better and help people transform their conceptions, expectations and aspirations, and those of their communities, through six key strands of activity:

- Encouraging learning and skill development
- Ensuring access and activity addressing disability
- Encouraging outdoor play
- Promoting healthy activity and wellbeing
- Enabling experiences of the arts
- Supporting the local economy

anything new released by the government about drugs. The latest plant to have been added to the garden is salvia divinorum, which can be purchased online. "It gives you what's known as a death trip," says the duchess. "When inhaled through a bong, it makes the user feel as though they're dying. It's legal in the UK, so we're doing a lot of work to educate visitors about it."

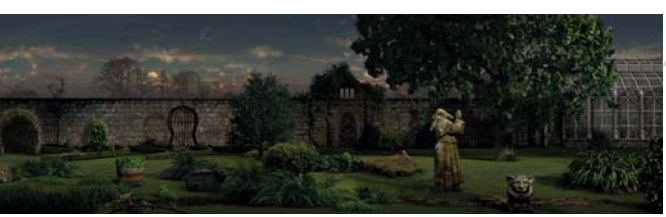
Not only are the tour guides essential to ensure visitors get value out of the garden, they are also mandatory. To open the garden, the duchess had to get a licence from the Home Office, which states that the garden must be policed properly and visitors are not allowed in on their own.

With four salaried people giving tours eight hours a day, the Poison Garden is very expensive to run, but the duchess considers it a more than worthwhile outlay. "One visitor's son had died of a heroin overdose and she said she wished they'd been on a tour like that when he was young, so they could all have been so much more aware," she says.

Alnwick Garden's drugs awareness activities are an important part of the attraction's offer for both young offenders and school children. "It's really about raising awareness," the duchess explains. "One project involves using actors to play the roles of drug addicts in the gardens during school tours. Pupils randomly see someone lying unconscious under a rose bush with a needle beside them, and later they'll see someone smashing bottles or doing graffiti. They're pretty shocked. They then go into a classroom and the actors come out and talk about drugs with them. It's a very effective project that we'd like to put out to other places."

THE POISON DIARIES

The duchess's passion for plants has evolved into them taking on their own characters in a new book aimed at young adults called *The Poison Dairies*. Although written by Maryrose Wood and published



THE WEBSITE
Visitors to *The Poison Diaries* website can collect plants as they journey through the garden and choose to learn about either their curative powers or their deadly ones. New plants are added regularly

NAME YOUR POISON...

The plants are depicted in almost human form on the website with details of the damage they can cause

DATURA
A power hallucinogen, renders people incapacitated

MANDRAKE
Hallucinations and madness

OPIUM POPPY
Death by respiratory failure

BELLADONNA
Symptoms include dilated pupils, blurred vision and blindness. If left untreated, death follows

SALVIA DIVINORUM
A powerful hallucinogen

NICOTIANA
Extremely addictive. High doses can cause intoxication and death

ACONITUM
Nausea, difficulty in breathing, numbness and confusion

RICIN
An extremely small dose of the seed's toxin can kill an adult

by Harper Collins New York, the series was inspired by the duchess and she has involvement in the stories. "I was looking at the plants one day and imagining the stories they could tell," she recalls. "As plants can't talk, I created a boy called Weed, who has a genetic defect that gives him the gift of hearing them. He then uses the plants to kill people who have hurt him."

Wood spent time at Alnwick to understand Weed's birthplace and the duchess sees a draft of each book before print. While she's had to allow Wood some free rein with the style of writing, she's adamant that the plants are used to kill in the correct way in the books. "The way they view this kind in America is different from the UK," she says. "Americans get quite worried about the idea of date rape and the like, but I'm always fighting for the kill. We have to do it responsibly, we don't want to teach anyone to kill, but I want it to be accurate."

When the duchess was approached by a director for the film rights, she realised her idea was bigger than she'd initially thought. As well as an interactive website, which receives 14,000 hits a month, the book rights are being sold around the world, and the second instalment of the trilogy will be out in May 2011. The duchess wants the next book to be published before selling the film rights, but is insistent that when the time's right, it'll be filmed at Alnwick.

THIRD PHASE

The commercial opportunities this will create is good news for the duchess, as she's currently trying to raise £25m (€29.6m, $39.3m) to complete the third phase of her £60m (€71.1m, $94.4m) development.

The garden is run as a charitable trust. "The garden's not relevant unless it's filled with people and we're running good social programmes," she says. "It'd be terrible to spend that sort of money if there weren't really good values behind it that you believed in from the core of your heart.

The third development phase certainly isn't short of good values. The Poison Garden will double in size and a Garden of the Senses will be added. This will be for wheelchair users, but will also teach about disabilities. School children will be blindfolded or make their way around the garden in a wheelchair so that they understand what it's like to have a disability.

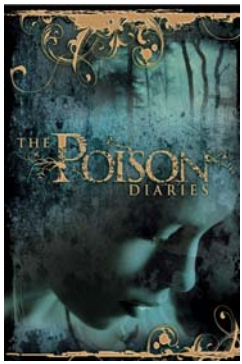
The most ambitious part of the project is a £5m (€5.9m, $7.9m) play area with eight levels, which will be as thrilling for disabled children as the able-bodied. "We're going to make the disabled route the most exciting part of this play area," the duchess explains. "Rather than mum staying on the ground with her disabled child while the other children have fun, these children are going to be at the greatest height, with swinging bridges, and they'll be shouting down to their siblings, who will wish they were up there with them. That's never been done before." The duchess is aware she has a challenge to get investors to support her idea. "People will understand when they see it, but at the moment they're like 'oh, here she goes again'."

The duchess is used to having her ideals questioned. When she first announced her plans for Alnwick, many accused her of vanity gardening. "Anyone who knows me, and knows the project, knows that couldn't be further from the truth," she says. "From the start, I've strived to get local people to take ownership of this project – the garden's theirs, not mine." Funnily enough, the moans about how much the garden was costing have stopped now it generates £50m (€59.2, $78.6m) for the region.

The duchess hopes she can raise the final £25m and have the garden built within five years. "It will have taken 20 years of my life to do, but I have to complete it," she says. "I couldn't give it up now."

She won't be resting on her laurels after this though (which, incidentally, release a toxic fume when cut). Ideas for future projects include more books in *The Poison Diaries* series, twinning Alnwick with a community garden in every country and, on a completely different level, creating egg timers containing people's ashes.

Ironically, given this recurring theme of death, the duchess has achieved the opposite. She's brought life to Alnwick Gardens for people of all ages and abilities. ●



THE POISON DIARIES TRILOGY

The book rights to the successful first novel have been sold around the world. When the film is made, it will be filmed at Alnwick, which will lead to commercial opportunities, including licensing and merchandising

ABOUT THE DUCHESS

Hobbies – My dog – a huge Italian Spinoni called Fuzzy who takes up far too much time! I also enjoy reading anything about poison
Favourite food – Chinese and Italian
Favourite film – *Hot Fuzz*
What drives me – I'm obsessive about delivering, so if I've started something I won't stop until I've either succeeded or have exhausted every possible avenue to make it succeed
How would you describe yourself – Driven and optimistic, sometimes ridiculously so
How would others describe you – I dread to think
The best piece of advice you've ever received – "Poor sandwiches are a symptom of an illness." The detail makes the big picture and if the detail isn't good then the big picture suffers. I'm interested in the smallest details and watch and look at everything to ensure that the vision is protected. One other piece of advice which I always consider is: "Don't look at what something costs – look at what it generates."

Should museums charge admission?

The introduction of free admission to many national British museums in 2001 generated an ongoing debate, which is now back in the spotlight due to government cuts. Kathleen Whyman asks the experts if the removal of entrance fees was right or wrong

NICK POOLE

Chief executive, Collections Trust

The times are changing for UK museums. Behind the headlines, we're seeing a profound move away from a culture of dependency on public subsidy and towards a sector that's built around innovation and enterprise.

Museums can help the UK back onto its feet, not just by helping bolster the national tourist economy, but by supporting local economies and promoting domestic tourism and local ethical commerce.

Museums are increasingly effective in using cross-platform media, including the web and print, to drive audience share and to create longer-term opportunities for revenue generation, such as loyalty schemes and cross selling of merchandise and content. Following the collapse in demand for niche commercial image libraries, museums are moving from selling single-use pictures to taking a more commercial view on merchandising and cross-promotion, both with each other and with other forms of leisure attraction, even making use of platforms such as Flickr and Wikipedia to reach new and non-traditional audiences.

In the online world, museums have realised that there is equity in their brand, and that they can control this equity to create both value and revenue. Take, for example, the recent collaboration with the BBC's *A History of the World in 100 Objects*, which brought the curatorial authority of the British Museum to millions of consumers through iTunes.

Museums are emerging from 10 years of public subsidy stronger than ever, and are ready to face the challenges that lie ahead. Instead of looking back to the old business models, they're looking ahead with both creativity and imagination.

KEN ROBINSON CBE

Chair of the Tourism Alliance

The UK's worthy social gesture of free admissions, intended to deliver culture to the masses, by attracting "lower" socio-economic groups and minorities to museums, has been a costly failure. While admissions did increase on average 128 per cent between 2001 and 2010, this was an increase in the number of visits, not the actual visitors.

Lacking income from admissions, museums have focused on charged temporary exhibitions, events and trading, which diverts from their core purposes.

This costs about £70m (€83m, $109m) a year from the DCMS's (Department for Culture, Media and Sport) withered budget; a vast sum, compared, for example, with VisitBritain's grant of £25m (€29.5m, $39m) for worldwide promotion. DCMS says this benefits tourism by "investing in the product", yet most overseas visitors expect to pay.

I strongly favour national museums being available free for all – but in a managed way. They should admit educational groups free, and retain free access for UK residents on selected days and at times of the year. But, most of the time, and therefore for most visitors, normal charges should be re-introduced. And charges should be varied by time, or visitor category, to manage demand.

Then, most of the £70m could be spent on promoting our great museums through tourism marketing budgets for domestic and inbound visitors. But enough funding should be retained, say £15m (€17.7m, $23.3m), for targeted proactive schemes and incentives to draw in the key new audiences that the simplistic "free" policy has failed to attract – free of charge, of course.

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The National Portrait Gallery, London, UK has seen an increase in visitor numbers since introducing a free admission policy

CONTEMPORARY GALLERIES © COLIN STREATER

SANDY NAIRNE

Director, The National Portrait Gallery

After years of not charging for museums, to either introduce it or return to it could have a significant effect on the ability to raise funds through museum shops, restaurants and exhibitions. The position of a pay point will put people off coming into the gallery to use these facilities and we prefer to ask people to give what they can if they have enjoyed their visits in special donation boxes.

Free entry has enabled The National Portrait Gallery to develop new audiences in the hard-to-reach groups: young people, those from lower socio-economic groups and black and minority ethnic groups.

Almost a quarter of visitors to our Indian Portrait exhibition last year, for example, were from black and ethnic minority audiences (with 14 per cent from south east Asian groups and 33 per cent of visitors to the exhibition hadn't previously been to the gallery). The fact that it was free meant we were able to attract those groups.

Our intention is to ensure that the gallery maintains its public programme as much as it possibly can. We welcome recently launched government initiatives to increase the ways of encouraging potential sponsors and benefactors. Museums and galleries will need to build on their already impressive track records of working with the private sector, of seeking sponsors and adapting individual giving packages to make them as attractive as possible given the current economic climate.

In the long term, museums and galleries may well have the opportunity to exercise more creative autonomy with the way they can build, adapt and increase access to their collections.

BOB ROGERS

Founder and chief creative officer, BRC Imagination Arts

For a decade now, many national museums in the UK have felt that it was their public duty to not charge admission. Today, that assumption, and all assumptions about funding, are under relentless pressure.

We'd all prefer to have museums funded in some other way, so that museum visits could be free to everyone, regardless of their ability to pay. But, in the 21st century, we are facing shrinking government funding, decreasing private donations and a new era in which corporate sponsors increasingly expect either partial or total control of content. We're now hearing our museum clients debating the question: Should we charge admission?

One view notes that "what has no cost has no value." According to this theory, a free visit accidentally signals that what museums offer has no value. This is the opposite of our belief and intent.

There's another option, which is used in venues such as The American Museum of Natural History in New York. If, in the judgment of the ticket sales clerk, someone would be unable to visit the museum if there were an admission charge, the ticket sales clerk can allow them to pay whatever they feel comfortable paying. This option isn't advertised.

We, at BRC Imagination Arts, believe the question of admission for museums is highly personal, and highly dependent on the identity and the mission of each individual museum. This will be an agonising debate over the next few years.

Many national museums will be forced, by changing circumstances, to discover ways to add earned revenue from many new sources. Not all, but many, will be looking seriously at charging admission. ●

JULIANA DELANEY

From Mickey Mouse to Harry Potter – Juliana Delaney, Continuum Group's CEO, examines how the UK attractions industry has learned a lot from these characters

Anyone who thinks they know about the evolution of the visitor attractions industry would start at the beginning – with a man and a cartoon mouse. Unless, that is, they'd been to Orlando recently; then they'd begin with a boy and his owl.

If the genesis of our attractions industry is Walt Disney and Mickey Mouse, its zenith is surely Universal Studio's recently opened The Wizarding World of Harry Potter. Here we see how far attraction technology has evolved in a myriad of amazing ways. Yet it's equally fascinating to note which fundamental attraction principles remain constant.

Is it possible, therefore, to look at the development of the attractions industry through the last 30 or so years by analysing what lessons can be learnt from the new 'boy' on the block and what fundamental principles passed down from Disney, still live on at Harry Potter today?

First though, let's track the maturing attractions industry in the UK by looking at its development in 10 year chunks:

THE DISNEY INFLUENCE

In the 1980s, attraction development forever changed the way in which families spent time out of their homes. A rise in the number of Britons taking holidays in the US in the 1970s meant that early adopters of the attractions industry experienced the Disney magic and sought to wave that same wand over their own fledgling tourist attraction projects. From people-mover systems travelling back in time, to hands-on interactive devices instead of labels, exhibits started to come out of their glass cases. As 3D tableaux paired in a variety of different ways with mannequins, critics argued that culture was dead. In this craven new world, the radical concept of

ABOUT JULIANA DELANEY

Delaney has worked for the visitor attractions industry for the past 25 years. She was instrumental in bringing the Jorvik Viking Centre to the international stage and was a founding member of Continuum, joining what was then called Heritage in 1985 when the company was in the process of being launched. Today, Delaney leads the development of the Continuum portfolio of attractions in her position as CEO. She has been involved in the set-up, launch and marketing of all of Continuum's attractions including Portsmouth Spinnaker Tower, The Oxford Story and The Canterbury Tales. Other key projects have included the £15m White Cliffs Experience at Dover Museum, A Day at the Wells, Vikingar!, Scotland, the £25m (€29.6m, $40.3m) Doncaster Dome and the £60m (€71m, $96.7m) International Centre for Life.

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Universal Studio's The Wizarding World of Harry Potter shows how far attractions technology has come

leaving through the souvenir shop was born and marketing experts entered the picture as Saatchi and Saatchi created national headlines for the V&A with the campaign: 'An ace café with quite a nice museum attached'.

Museum curators and local authority culture departments gasped in horror – until the visitors and the cash rolled in. By the mid 1980s, families no longer dragged children to museums and heritage centres; parents were dragged to them by their children instead.

The Natural History Museum, Beaulieu's National Motor Museum and the Jorvik Viking Centre in York turned the whole experience of interacting with objects into 'edutainment'; a controversial word that defined the embryonic attractions industry. Suddenly, there was a sliding scale, along which museums could move seamlessly to become heritage centres, and visitor attractions could be part-museum but also part-theme park. We accepted that there was no clear delineation – we were all in the visitor attraction business together now.

In charge of the Jorvik Viking Centre during those heady years, I remember defending its popularity and financial success on BBC's *Newsnight*, BBC Radio Four's *Front Row* and on CNN, where I was pitched against some Disney expert who said the mouse was part of America's heritage. By the end of that decade, the success of the visitor attraction concept across its full spectrum was firmly established.

"A GOOD STORY WELL TOLD IS STILL THE MOST IMPORTANT BASIS FOR AN ATTRACTION. EVEN AT ITS MOST INNOVATIVE AND COSTLY, TECHNOLOGY IS ONLY THERE TO SERVE THE STORYTELLING PROCESS"

THE IMPACT OF LOTTERY MONEY

The 1990s saw a true acceptance of the exciting new approach to the immersive day out experience. Alongside it came a burgeoning suppliers' network ranging from management consultants and concept and 3D designers, to model makers, technology experts and marketing and PR people. This completely new service and manufacturing industry matured over the following 10 years as enthusiastic amateurs became experienced experts.

Coincidently, the first National Lottery launched in the UK in 1994. By the end of the decade, the Lottery had raised around £7bn (€8.3bn, $11.2bn) for good causes, a large proportion of which fuelled the UK heritage attraction industry. The thin permeable membrane between commercial attractions and museums became even thinner, while commercial attraction operators, such as Merlin and Heritage Projects, couldn't stop the tidal wave of public funds

"A GOOD STORY WELL TOLD IS STILL THE MOST IMPORTANT BASIS FOR AN ATTRACTION. EVEN AT ITS MOST INNOVATIVE AND COSTLY, TECHNOLOGY IS ONLY THERE TO SERVE THE STORYTELLING PROCESS"

flowing into competing attraction developments; despite cries of foul play.

I recall Merlin CEO Nick Varney and I questioning how Tesco or ASDA shareholders would have reacted to a government plan to set up free supermarkets in every city. Yet the commercial attractions sector then comprised of lone voices with no lobbying power. Lottery-funded attractions from the Eden Project to the International Centre for Life got funding and opened, often in direct competition with the commercial attractions on their doorstep.

HIGH PROFILE FAILURES

At the point when money, knowledge and expertise should have come together in the perfect project, the industry created the perfect storm – the Millennium Dome. What we learnt from the 1990s was that big budgets weren't a guarantee of commercial success. Projects had to have a heart.

Post-Dome, more multi-million pound Millennium- and Lottery-funded mistakes ensued; the National Centre for Popular Music, BIG, The Earth Centre. We all knew that list off by heart by the mid noughties.

During that period, many consultants, suppliers and advisors sold their souls to the devil by not raising concerns for the future viability of these high cost projects. Who'll confess now to have taken the silver dollar rather than question whether these projects would work? Big budgets allowed extravagant investment in technology; with hands-on interactives, immersive theatres, special effects and devices of all kinds, but there was little thought for long-term running costs or replacement.

Such high investment in public-funded attractions drove higher and higher spending in competing theme parks as the next ride had to be bigger and more thrilling to keep the market coming back for more. Yet true gems shone through, with relatively low-cost projects, such as Bewilderwood, winning hearts and awards, while innovative projects such as the London Eye created new market demand and delivered a great return to guests and investors.

The Bewilderwood forest adventure park in Norfolk (above) is "winning hearts and awards"

I returned to Disney's Magic Kingdom recently to revisit Pirates of the Caribbean before visiting Universal's The Wizarding World of Harry Potter and those truisms were evident. A good story well told is still the most important basis for an attraction. The story has to be real and relevant to its location for it to appeal. We know that technology, even at its most innovative and costly, is only there to serve the storytelling process. We have learnt too that visitors truly love interaction with great staff and we've given that interaction a name – guest service – and placed it ahead of making money in our priority list. We're also confident that entrance through a pre-show, followed by the main show and exit via the gift shop is the experience guests love.

Decades apart, these two attractions reconfirm the fundamental principles of our industry. We're in the enviable business of making memories and when we do it well, those memories last a lifetime and even change lives. What a great industry to be in. Bring on the next 30 years. ●

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KAREN STALEY

THE NEWLY APPOINTED EXECUTIVE DIRECTOR OF IAAPA EUROPE TALKS TO KATHLEEN WHYMAN ABOUT HER ROLE AND PLANS FOR THE ASSOCIATION

WHAT ARE YOUR RESPONSIBILITIES?

Everything related to IAAPA's (International Association of Amusement Parks and Attractions) European members. This includes membership services, government relations, collection and distribution of industry data and promotion of safety, education and training. With IAAPA's new global structure, most services have been decentralised to the regional offices, including IAAPA Europe.

HOW DOES IAAPA EUROPE DIFFER TO IAAPA?

A few years ago, IAAPA redeveloped its European office to expand and enhance member services locally and in the members' language. As a result, IAAPA Europe *is* IAAPA – we are the services arm of the organisation for members in Europe.

IAAPA Europe is a small team, but has the support of the global office when needed. We do everything – member calls, managing EAS (the European Attractions Show), setting up seminars, and working on member data. We balance a number of activities, which keeps us extremely busy, but it's also great fun and very rewarding.

HOW DO EUROPEAN OPERATORS DIFFER FROM THOSE IN THE US?

Operators' focus on entertaining their visitors and safety is the same in Europe and the US. The primary differences are related to legislative and regulatory issues.

WHAT ARE YOUR PLANS FOR EUROPE?

IAAPA has a strategic plan and a business plan. Within those plans, there are specific objectives and strategies outlined for IAAPA Europe. As a result, IAAPA Europe has a very well-defined strategic framework, developed by the European Advisory Committee. We will continue to move those efforts forward with specific focus on further developing our EU public affairs activities and expanding our industry databases.

HOW WILL YOU DEVELOP YOUR EU ACTIVITIES?

Hard work is how we'll do it! We plan to expand our presence at the EU meetings on issues that will have an impact on the attractions industry.

During the last two years we've expanded our database and made strides in the area of industry research. We've hired people who have a great history in the industry and worked with them to evaluate what's out there as far as old parks, new parks, and parks we haven't been in touch with are concerned. We've developed a database with information from these parks. We plan to continue to do that work, find out more information on the industry, send out surveys and support that database to have a clear understanding on what's happening in the industry and prepare some evaluations.

WHAT IS THE IAAPA STRATEGY PLAN?

The IAAPA Strategic Planning Committee develops an Annual Strategic Plan that's approved by the board of directors. That plan outlines the priorities for the association. Based on that, the European team prepares a business plan and submits it to the European Advisory Committee, which reviews and modifies it. The plan includes increased PR, communications, a membership campaign and safety training.

The plan for 2011 includes marketing, seminars, training, legislation, communication and everything an association wants to do to serve its members – educate them, uplift the industry, work on things to help the industry, give an oversight on legislation, training, communicating to the industry and grow our membership.

HOW WILL YOU GROW MEMBERSHIPS?

By providing products and services that people can't get anywhere else. The reason the association exists is because there needs to be a voice for the industry, on legislative levels, be it national or within the EU.

We plan to offer training that's unique and of a high quality. We also have the trade show, which is a valuable product for the whole industry. We offer many services for members, which we hope others will see and want to be a part of.

WHAT DO YOU THINK WILL BE THE MAIN CHALLENGES?

IAAPA has always been perceived as an American association with a few international members. That's changing now, thanks to the new global structure. Perception has changed over the last years, but there's still some way to go. Our main challenge is to prove to the European members that we're here for them – and we're here to stay.

WHAT ENQUIRIES DO YOU GET FROM MEMBERS?

Most of the questions are about how to start a park or how to develop one. Typically, when we have these enquiries and feel it's quite detailed, we'll meet up with the member and offer ideas and information on how others have done it successfully. We help them connect with other parks or facilities, so they can visit them and see how they're doing. There's a great deal of sharing in the industry.

There are also questions on safety. In answer to these, we offer safety seminars at EAS. In 2011, for the first time, we'll be hosting a safety conference in the spring in Germany for members.

WHAT ARE THE MAIN ISSUES CURRENTLY IN THE INDUSTRY?

In Europe, the main challenge is still economy. Although the attractions industry has proved to be quite resilient, the last couple

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Karen Staley became director of IAAPA Europe in November

of years have been challenging for the destination parks, and the parks located in southern Europe.

To counter this, we need to teach our members how to communicate what their parks offer and help them with strategies on how to market their ticket sales, sell tickets online and encourage people to come.

Also, safety is always top-priority. With the added focus from consumers and media, and with news spreading across the globe with the speed of light, safety is, and will continue to be, non-negotiable.

WHAT ARE THE CURRENT TRENDS IN THE INDUSTRY?

There are a number of trends we can all agree on – consolidation, the increased importance of brands and resort-building. But, for me, as an association employee, the most interesting trend right now is how attractions merge into each other. Waterparks are adding dry-park elements (and vice-versa), zoos are adding theming and museums are borrowing from the business models of commercial attractions. A few years ago IAAPA saw its core constituency as the amusement and theme parks. Now we have a much broader perspective.

WHAT ARE THE OPPORTUNITIES FOR GROWTH?

We have our eyes on Eastern Europe. We've been talking about this for some years, but can really see some things moving now. This is the fastest growing region when it comes to IAAPA memberships and services throughout Europe.

HOW WAS EAS 2010?

The highlight was the record attendance of 9,000 visitors and the diversity of exhibitors. Our seminars were attended by 3,000 people, a third of visitors, which was fantastic.

The mood of the industry was upbeat and there was a lot of business being done on the floor. The whole show was positive and visitors were very optimistic.

WHAT ARE THE PLANS FOR EAS 2011?

It'll be the first time EAS has been in the UK. We're expanding our educational offering and programmes and planning some features with leaders in the industry. We're also extending our seminar programme to diversify more into the waterpark industry and entertainment sector.

HOW MUCH TRAVELLING DO YOU DO?

On average, I travel for a couple of weeks each month. Being out there, visiting members, is our highest priority. I'm moving to Germany to make it easier and to be closer to the head office in Brussels, Belgium.

WHAT IS YOUR HISTORY WITH IAAPA?

I came from the trade show industry, which has many similarities to the attractions industry. You have to think commercially and put the guests centre stage.

I started at IAAPA in 1999 as a consultant to manage registrations for the IAAPA Attractions Expo. In 2001, the role extended to consult on exhibit sales. In 2004 I became manager of exhibit sales and a permanent IAAPA employee. In 2006 I became operations manager for IAAPA Europe before being promoted to director of IAAPA Europe in November 2010.

What appealed to me about IAAPA was the member contact, as well as development of the tradeshow. The tradeshows are one of the best products we have.

WHAT WERE THE HIGHS AND LOWS?

There have been no low points. The highest point was my involvement in the redevelopment of the office in Europe a few years ago. It's an investment that's really starting to pay off – this year we'll reach 800 members, up from 500 just three years ago.

WHAT IS THE INDUSTRY'S FUTURE?

It's very bright – the need for recreation and togetherness are fundamental components of European life. There will always be a market for attractions and places for families to gather and have fun.

That said, attractions do of course need to adapt to changing demographics and consumer behaviour. ●

SHANGHAI EXPO 2010

Shanghai's Expo 2010 was the biggest event of this type ever held. Robert Simpson, founder director of Electrosonic and veteran of 15 expos, shares his experience of the 63 pavilions he visited

Spain Pavilion's 6.5m-high animatronic baby, Miguelin, attracted crowds of 40,000 people a day

Expo 2010 was huge and by far the largest expo ever staged. It occupied two sites, either side of the Huangpu river, covering a total of 5.28sq km (2sq miles). From the start, the organisers said there would be 70 million visitors, and the final total was 73 million. However, an article in the *New York Times* suggested a degree of coercion may have been involved to ensure the target was met!

The queues were formidable, with typical waiting times of one to three hours. The record was held by the Saudi Pavilion with eight hours. Pavilions had to offer a green channel, so small children, elderly people, pregnant women and the disabled could jump the queue. The Chinese exploited this loophole with gusto. Grandparents were strapped into wheelchairs and whole families would then pile in behind them. At one point, the Sweden Pavilion recorded more than 20 per cent of visitors claiming green channel, resulting in them closing this access point. A genial expat who took me round the UK pavilion said they'd had a pregnant visitor give birth – to a cushion.

Coping with visitor numbers

The implications of an average of 500,000 visitors a day meant that major pavilions had to decide how many they could realistically handle and how they could provide a worthwhile experience for so many visitors. In principle there are three possibilities.

The most obvious is the walk-through, which potentially has the highest capacity, but has the danger that, with big crowds, visitors don't get an interesting experience. The formats which guarantee that visitors get a uniform experience are the pulsed show and the ride (or transport system).

Electrosonic's work on the USA Pavilion involved three shows shown on huge screens

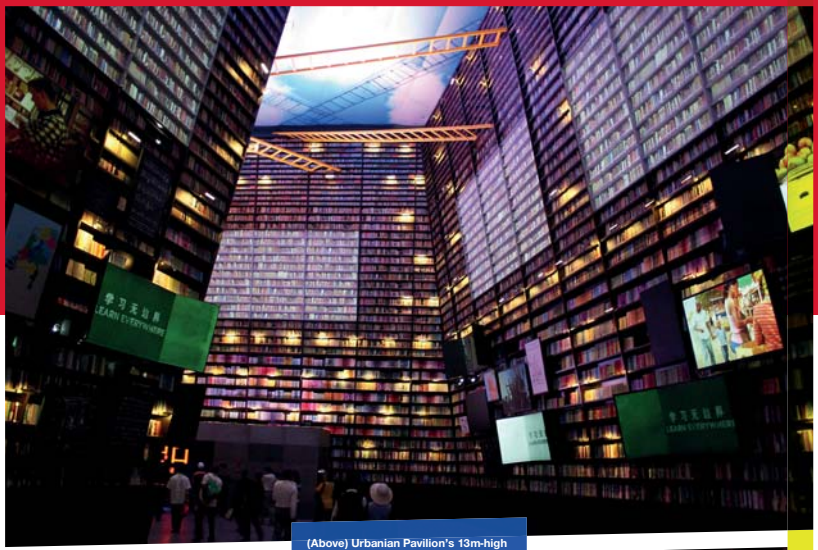
An example of the latter was the Saudi Pavilion, where visitors were transported on a slow moving conveyor belt. They first passed a conventional giant video panorama, but then the whole pavilion opened out into a huge space over which the conveyor floated. A film of Saudi Arabia unfolded below and around them on a huge 1,600 sq m (17,000sq ft) screen.

Actual capacity was stated on the pavilion website as 25,000 per day, but in view of demand, one suspects that efforts were made to run the conveyor as fast as possible! Such a system both controls and limits capacity, and results in a relatively short experience, in this case around 12 minutes.

The USA Pavilion achieved an average of 40,000 visitors a day using the pulsed show principle. Here, visitors enjoyed three separate show elements, followed by a walk-through exhibition resulting in a good value entertainment of 35 to 40 minutes.

The UK Pavilion won the Expo Gold Award for its architecture. With its amazing appearance of a somewhat angry hedgehog, it demanded a look inside and achieved around 50,000 visitors a day.

The biggest pavilion was China's. It contained an auditorium show and a dark ride, both of which restricted capacity. However, the main limitation was the lift system needed to get to the top of the pavilion for the start of the tour. The local papers reported capacity at 30,000 per day.



(Above) Urbanian Pavilion's 13m-high library symbolised the wealth of information we can access; (below) Germany Pavilion's sphere swung in response to the crowd's cheers

The River of Wisdom

At the IAAPA Trade Show in Orlando, the Themed Entertainment Association granted the China Pavilion a THEA award for Outstanding Achievement in respect of its exhibit The River of Wisdom. Well deserved, as it was possibly the finest thing to be seen at the expo.

The exhibit was based on a famous scroll painting *Along the River During the Qingming Festival.* The main painting was projected as a steady background image, but the figures within it were animated and you could see them walking up and down the streets and going about their business.

In the Pavilion of City Being (one of seven theme pavilions at Expo 2010) there was an excellent "in the round" multi-screen show called City Plazas based on scenes in Buenos Aires, Nairobi, Bombay, Wenchuan and Edmonton. Using seven 15m (50ft)-wide screens, it demonstrated that not only has film projection been replaced by electronic image projection, but that electronic projection effectively removes all limits to image size.

This was clearly demonstrated, not only by the Saudi and China examples, but also by the ceiling image projection in City Plazas, which would have been extremely difficult to achieve with film. Among many other spectacular projection displays at Expo, one I particularly liked was the Blue Planet in the Pavilion of the Urban Planet. This consisted of the top part of a hemi-sphere 32m (105 ft) wide. On it was pro-jected a six-minute film showing views of the earth from space, and aerial landscape photography.

The highlights

Shows that engaged and entertained, and exhibits that stirred emotion appealed most to visitors. So, in the excellent Spain Pavilion (40,000 per day, 20-minute dwell time) they enjoyed the films, but loved the 6.5m (21ft)-high animatronic baby Miguelin. In the Oil Pavilion, a splendidly politically incorrect 4D film elicited shrieks of enjoy-ment. The Germany Pavilion's Energy Source show got everyone cheering, as an imaging sphere swung ever higher in response to the audience reaction, symbol-ising the idea that people give life to cities.

There were many interactive exhibits. Obviously in busy pavilions, only a pro-portion of visitors could enjoy them. One solution to this problem was the creation of giant gesture driven displays, such as the Sailing City Construction exhibit in the Shipbuilding Pavilion that allowed several family groups to participate simultaneously.

At expos, the theme pavilions are often less well patronised than the national pavil-ions, yet actually contain some of the most interesting exhibits. One of my favourites was the Urbanian Pavilion, built on a grand opera scale with huge set-piece exhib-its. The Learn exhibit was in the form of a vast library (more than 13m (40ft)-high), presumably symbolising how much accu-mulated knowledge is now available to us.

Expo 2010 was fun to visit, if hard work. There wasn't anything radically new, but there were many developments in old for-mats and many stimulating exhibit ideas. *Robert Simpson is founder director of Electrosonic. Electrosonic did the AV installations in the USA Pavilion, the Shipbuilding Pavilion and the Information & Communications Pavilion at Expo 2010*

THE CREATORS

A talk from Barack Obama, 230sq m of LED screens and 217,300 seeds were among the highlights of the pavilions. Kathleen Whyman talks to some of the creators about their designs

USA Pavilion and Information and Communications Pavilion (ICP)

Bob Rogers, founder and chief creative officer, BRC

What was the USA pavilion's design?

Working with Electrosonic, we created a series of short, media intense areas. In the welcome area, we showed a video of various Americans trying to greet the Chinese visitors in Mandarin. Some spoke in perfect Mandarin, others were terrible and were laughing at themselves. The Chinese were very amused to see Americans trying to talk in their language. That made an initial connection.

I don't know of any other US pavilion that has had either the president of the US or the secretary of state and we had both of them appear in the film welcoming people to the pavilion. Barak Obama spoke about what the US and China could do together to make the world better. That was really disarming to the Chinese people. Everyone knows the US is a big and powerful country, but instead of showing a spectacle and shouting "Hooray America", he spoke about what they can do together.

In the second section, we created the dreams of American children about how to make the world a better place. In the third area there was a film called The Garden. It was very modest and is told purely with visuals and music. It was a story about a little girl who decides that she's going to transform the vacant parking lot opposite her house into a garden. The community tells her it won't work, but she doesn't give up and everyone eventually joins in and she gets her park. Many Chinese people were inspired that they could make a difference.

And the ICP?

In the ICP we achieved a real breakthrough in the integration of handheld devices with story telling that's never been done before [see in-depth feature in Q4 10]. Systems that have used them before have done so at a very low capacity – we were giving out about 1,900 devices an hour.

(Top) For the first time a US president recorded a speech specifically for an expo; (below) The Information & Communication Pavilion showcased innovative technology

Visitors collected information and ideas during their visit, which went onto their own webpage so they could go online and pick up the information they'd collected. We created three million web pages in real time during the expo.

Another feature of the pavilion was that if you were in the vicinity, it'd call your cell [phone] and invite you in. All those electronic interfaces are things the world wants and this was the next step towards achieving that. It won the ICP a lot of awards.

What did you think of the expo?

This was the first expo inside China, which made it extremely exciting, plus the sheer scale was just amazing – it was colossal.

A reference point that many people in our industry are familiar with is the size of the original Disneyland that opened in 1955. Including the service buildings, it was about 100 acres. Shanghai Expo covered 1,300 acres. A big day of attendance at Disney is 45,000 and the biggest day ever on record is 92,000 visitors. The expo averaged daily admissions of 450,000 and on a couple of days received more than a million visitors.

What many people don't realise is that the expo wasn't for international visitors, it was for the Chinese people – 98 per cent of visitors were Chinese. The expo was a party that China threw for itself and the entire world showed up to support it.

> "World fairs are an incredible laboratory for experimentation. If it turns out to be an operational nightmare, what the heck – it's only for six months. It gives people the confidence to try things"

Which pavilions impressed you?

The River Wall in the China pavilion was an exquisite piece of art.

World fairs are an incredible laboratory for experimentation. If the project turns out to be an operational nightmare, what the heck – it's only for six months. So it gives people the confidence to try new things. It's a great place to get ideas.

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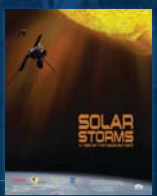

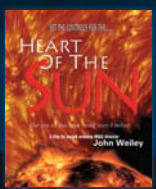

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(Above) On entering, guests found themselves immersed in The Happiness Factory; (right) queuing visitors watched films on a 28ft-tall Coca-Cola contour bottle

The Coca-Cola Pavilion

Rob Morgan, senior project director and Clara Rice, assistant project manager, Jack Rouse Associates

What was the design?

The aim of the Coca Cola Pavilion was for the audience to be swept into a fully integrated show, with each experience building upon the next. The pavilion's thematic framework was based on the Happiness Factory – the magical, mystical world inside every Coke machine, which was The Coca-Cola Company's highest-rated global advertisement ever. Within, we aimed for an immersive experience that was supercharged with fantasy and fun – all visitors were job applicants – and brought the factory to life. We also showcased Coca-Cola's 125-year history of innovation and constant pursuit of making things better.

We knew that with such long wait times, the guests needed to be entertained while they waited. In the queue, we had a media program of entertainment and introduced our premise via a graphic tableau of 'Now Hiring' postings and job applications, cut-outs with facts about Coca-Cola, and through sculpted characters and environments. The multi-media production was displayed on eight large video monitors and on a 28ft (8.5m)-tall Coca-Cola contour bottle rendered in LEDs. Just before they entered the pavilion, guests were asked to generate maximum decibels to set off the Happiness Meter and open the doors.

After entering the building, through a themed vending machine coin slot, guests were fully immersed in the Happiness Factory with shiny gear works, cogs, teeth, wheels and levers, displays on the wall and reader rails. A six-minute animated and live-action pre-show presentation was followed by a six-minute main film in the theatre.

Visitors to the expo rated it very highly and were willing to endure a six-hour wait to enter. Kingsmen Exhibits PTE Ltd provided the fabrication work, and the films were produced by Psyop.

What did you think of the expo?

I don't know that I can come up with a better adjective to describe the expo than big. And it was very well organised. The elevated walkway was brilliant, as you could see all the pavilions from above the fray.

I was impressed with the way in which many of the pavilions designers expressed their themes or cultures on the exteriors of the structures. A couple of my favourites were the UK and Netherlands, as they took some chances and made bold statements. The Spain pavilion is also a favourite for its bold form and use of material.

 ©cybertrek 2010

Hong Kong UBPA Pavilion,

Ingrid Schat, Hypsos

Connectivity through smart technologies was demonstrated via 230sq m of LED panels

What was the design?

The Hong Kong Pavilion was in the Urban Best Practices Area. The theme highlighted Hong Kong's connectivity through smart technologies used in daily life. The exhibition featured 230sq m (2,500sq ft) of LED panels with themes highlighting these technologies. Visitors were given an RFID card to activate displays about the various applications. A 360° video production highlighted the unique characteristics of Hong Kong through the themes of urban/rural, East/West, and modern/traditional.

Visitors could connect via touchscreen computer portals to video chat with other portals located at the main Hong Kong Pavilion and two locations in Hong Kong.

Considerable attention was paid to the design to accommodate as many people as comfortably possible. Each visitor was given an RFID card, which automatically kept track of the number of people inside the exhibition and allowed for more efficient crowd control. Exhibits and media experiences were also placed around the exterior of the exhibition so visitors experienced some of the content while queuing.

Visitors liked the fact there was a lot to see that could be absorbed in a relatively short amount of time. The production values were very high and people could easily understand the messages and content.

What work did Hypsos do?

We represented the Hong Kong government and managed all aspects of the exhibition, including fabrication and installation works, multimedia content development and production and final show programming. The suppliers we used included yU+co Lab, Media Go, and Thinc Design from the US. We were also involved in the UITP Exhibition on international public transportation, a Johnson & Johnson display at the USA Pavilion and the Urbanian theme pavilion.

What did you think of the Expo?

The expo has transformed Shanghai. The event will have a beneficial effect, both internationally and on the daily lives of Shanghai people with the extensive investments in local infrastructure.

Norway Pavilion

Vidar F Eggen, Multitekst Ltd

Norway Pavilion's open space was divided into four areas, including The Fjords

What was the design?

The Norway Pavilion was an open space with a canopy roof held up by model pine trees. It was divided into four areas – Coast, Urban forest, Waterfall/Fjord and Arctic.

The Coast had five sloping clusters of 40in (100cm) flat screens offering bird's eye views of the costal scenery of Norway. The Urban Forest had 40 screens, ranging from 10 to 30 inches, showing portrait and landscapes and images of Norwegian urban and city scenery and lifestyle. The Fjords had eight 40in (100cm) screens mounted vertically in two clusters, plus five screens embedded in the floor, which visitors walked on, displaying images of waterfalls hitting the sea. In the evening, life-size musicians were projected onto these vertical clusters.

The Arctic area showed videos of polar bears and cubs in their own environment. Three huge polar bear footprints were indented in an aluminium block that was kept at below zero temperature People could touch the snow-covered footprints and compare the size with their hands.

What work did Multitekst Ltd do?

We designed and programmed the Medialon Manager application that controlled 28 Dataton Watchout players, which were distributed to the screens. An audio server running Richmond Sound Design's SoundMan was used as a time code generator and a multi-channel audio playback source. It routed the audio channels to the 35 speakers. The lighting board received cue trigger events to set its subtle changes of lighting moods, including projections of Aurora Borealis [the Northern Lights] onto the pavilion ceiling.

What were you most proud of?

The multimedia experience for the musical evening presentations had a feel of elegance, despite its complexity. A total of 21 video streams and 12 channels of audio through 35 speakers and lighting cues were strictly synchronised to make it work. Clusters of video screens focused on one part of the band or a soloist.

Each screen had its own shot, and the audio of that particular area would mix with the images. This created the illusion for visitors that they were actually walking among the musicians.

UK Pavilion

Katerina Dionysopoulou, Heatherwick Studio

PHOTO: IWAN BAAN

The UK Pavilion offered some welcome fresh air with an outdoor park for people to sit in

What was the design?

We did lots of research on expos and what struck us was that people remembered either the building or the exhibition inside it. We wanted to create an object where the structure and content were linked, so you couldn't remember one without the other.

We focused on just one aspect of the UK – nature. Seeds are part of nature, so we used 217,300 to create a Seed Cathedral. The construction was a mass of fibre optic hairs, which transfer the light through in the day and illuminate the space and the seeds, which were at the tip of each hair. We put small LEDs in each hair, so at night the building glowed. Our site was by the river. The fibre optic hairs moved in the breeze, as though it were living.

We also wanted to create a place where people could relax. At most expos, there's no space to breath. We created a big park for people to relax in. People lay down and had picnics and watched performances that the British Council organised.

What were you most proud of?

That we pulled it off. It's such an abstract concept, we had to convince people on a daily basis that it'd work. Many stakeholders wanted to use David Beckham or a double decker bus – things symbolic with the UK. I'm proud that we didn't do that. The Chinese think of us as traditional, but we challenged that and showed that the UK is creative and thinks differently.

Why did you use minimal AV?

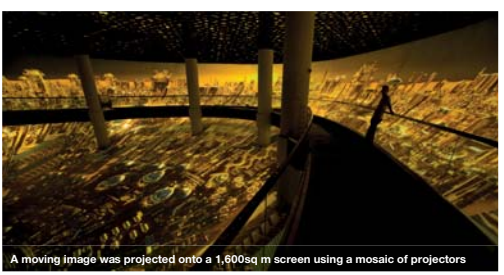
We visited China a few months before we started work on the pavilion and were bombarded by buildings that light up. Technology is so advanced there, that if we designed something with break-through technology in 2007, by 2010 it would be outdated, so we created an experience.

How many visitors did you have?

We had 50,000 a day and eight million in total. We didn't confuse people, there weren't lots of little rooms where they could get lost. We had a circulation diagram with a straightforward loop – visitors went up a ramp into the Seed Cathedral, and down again and out of the side.

Kingdom of Saudi Arabia Pavilion

Glenn Smith, managing director, Sky-Skan



A moving image was projected onto a 1,600sq m screen using a mosaic of projectors

Which pavilions did you work on?

Our main project was for the Pavilion of the Kingdom of Saudi Arabia. We were responsible for all the AV systems' design, execution, operation and maintenance, which won a Best of The Best Red Dot Design Award and the Expo 2010 Gold Award for Best Interior Exhibit Design. The visually striking pavilion was themed as a Moon Boat, inspired by a Chinese treasury pitcher. The client sought to show the close bonds Saudi Arabia has with China, as well as highlights of the Kingdom.

We also provided video projection equipment to the Venezuelan Pavilion for their main theatre and a rear projection exhibit for the main hall, but no on-site services.

Please describe the work you did.

We designed the AV experiences. This included: the entrance ramp with a network of 20 plasma screens, audio and a digital signage system; a pre-show area with a seven projector field panorama on a giant curved screen, along with four single projection screens; and the main attraction, The Treasury, which used 25 high-power HD projectors to make a single moving image on a 1,600sq m (17,000sq ft) bowl-like inverted screen. Visitors were transported via a moving belt walkway through the different areas.

For The Treasury, we worked with designer GPD to create a mosaic of video projectors, blended and masked to make one large image. The combined resolution of the screen was 35 million pixels. Our DigitalSky Software kept all systems running in sync and permitted the mapping of the show content to the unusual screen shape using built-in custom software algorithms. Our 44 definti PCs kept the AV experience running in time with the moving belt, so all visitors could see everything.

Which suppliers did you work with?

We used Panasonic Video Projectors and Plasma screens, Viscon GmbH in Germany for fibre optic high-bandwidth video cables and Memedia in Munich for DigitalSignage players and software for the entrance area. Sky-Skan provided the rest. ●

BEYOND ALL BOUNDARIES

A battle in a war plane is among the 4D experiences created by The Hettama Group and produced by Tom Hanks for a new attraction about World War II. Phil Hettema, show producer and creative director, tells Kathleen Whyman what inspired the design

What is Beyond All Boundaries?

It's a cinematic journey through the epic and dramatic story of World War II (WWII) and is shown at the National World War II museum, New Orleans, US.

During the 35 minute, 4D film, audiences are plunged into another time and place where they feel the tanks rumbling across North African deserts, brush snow from their faces during the Battle of the Bulge and flinch at anti-aircraft fire, as it tries to bring down a B-17 on a bombing mission over Germany. Life-sized theatrical props, animation, atmospherics, and sound effects all work at the touch of a button to create the immersive experience.

The actor Tom Hanks was executive producer and narrator for the $10m (£6m, €7m) film. The Hettema Group worked on the concept, design and production.

What is the content?

Beyond All Boundaries immerses viewers in the story of WWII on a global scale, as well as on a very personal level. While the scale of the war is massive, the stories of those who were there provide a very personal perspective on an epic, global story.

Through extensive research, including use of archival documents, photographs and footage, we determined the most authentic and powerful way to tell the story of WWII, using the very words of those who were there. True stories of individuals are voiced by 30 well-known actors including Kevin Bacon, Patricia Clarkson, James Cromwell, Blythe Danner, Viola Davis, Jennifer Garner, John Goodman, Neil Patrick Harris, Tobey Maguire, Chris Pine, Brad Pitt and Gary Sinise.

Of the 44 people whose stories are featured, six are still living, including my father, David Hettema. He served in the Army Air Forces as the pilot of a B-17 and flew 35 missions over Germany at the age of 21. His war experiences contributed to an exhaustive research effort spanning more than 6,000 hours by our creative team.

How did his experiences help you?

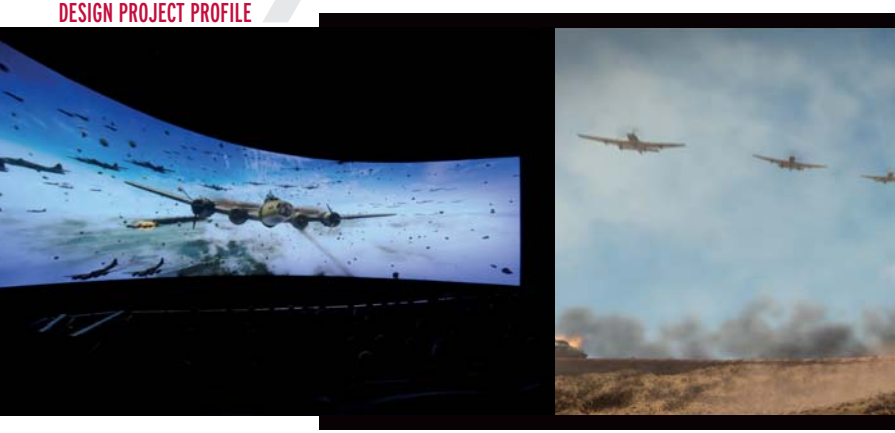
My father piloted a B-17 in 35 missions over Europe. While I was always aware of his service, he rarely talked about it. When he did, he'd focus on the stories of barracks life in England where he was stationed.

(Above) during the 4D film, viewers are taken on a bombing mission over Germany

A modest man in many respects, he never talked about the tough parts of the war, especially not the challenges of battle.

Over the course of the project, as we talked to hundreds of veterans, we found that this attitude was typical of many of them. They came home from the war with a sense of having "just done what was expected of them". They didn't regard themselves as heroes and didn't talk much about their experience.

It was only when I began working on the project and asking questions that my father began to open up about those years and shared some pretty incredible stories with me. It turned out that almost all of the members of the project team had personal connections to the war and those combined stories became a true source of inspiration for all of us.



(Above and right) viewers are taken through a variety of scenes to show the different elements soldiers had to survive in

THE FILM'S SPECIAL EFFECTS

- A 120ft (36.5m)-wide, 30ft (9m)-high theatre screen, plus a full scrim screen, creates a multi-layered spectacle for viewers
- Nine Digital Cinema DLP projectors are used for dramatic effect
- A 25ft (7.6m) concentration camp guard tower rises ominously from a deep pit below the stage
- An anti-aircraft gun rises, rotates and appears to fire above the audience
- A B-17 aircraft nose lowers from overhead rigging above the audience, seamlessly blending with computer animation for a dramatic 4D effect during a massive air effort
- Six full-sized Dragons Teeth tank traps appear in the D-Day sequence
- Snow falls on the audience during the Battle of the Bulge
- The full surround custom audio system has 27 speakers
- 250 specially designed theatre seats are equipped with full range oscillating vibration
- 305 archival photographs
- 517 film clips of archival footage
- 75 original CGI art images

What involvement did Tom Hanks have in the project?

We are tremendously grateful to Tom Hanks, who served as executive producer and narrator. His commitment to this project at every stage, from his input to the script and production to his role as host and narrator was invaluable.

What was your inspiration for the design?

The primary factor driving the design of the presentation was to create a film of immense scale, which would totally immerse audiences in the story. We begin telling the story at a smaller scale, but slowly increased the size of the images and environments, until the presentation spans 130 ft (40m) -wide by 35ft (10.5m) -high, with a depth of more than 50ft (15m). That's especially impressive when you consider the audience is just 250 people.

From there, we did a great deal of research of archive film and photography, which was the beginning of development of the style of the presentation. We also spent a lot of time developing the look of the animated graphic maps which explain the global nature of the war and the way it involved the entire planet, as they were critical to helping the audience understand the many different theatres of war, which were unfolding simultaneously.

From the big picture to the smallest of details, historical accuracy was paramount. Painstaking efforts were made with each decision from the exact colour of the B17, to the shape of the rivets, to the grill cloth that covers the period radio speakers.

What challenges did you have?

The greatest challenge was combining a variety of projection layers and throw angles (along with significant scenery and special effects) within a limited space. The rear wall of the volume behind the main (scrim) screen was front projected with an extreme keystone level. In other circumstances we would have rear projected that layer. We spent a great deal of time fine tuning the design and the tracking of scenic and effects units so we could create a diverse series of environments and moods.

Another challenge was to tell the story of the war in a way that would resonate with audiences of all ages. To capture the imagination of the younger generation, we used state-of-the-art technology and special theatrical effects to create an immersive, emotional experience. For older Americans, we made sure we got it right by working with leading historians, doing extensive research, using archival photographs and footage, and ultimately paying homage by telling the story in the very words of those soldiers who were there.

Why did you use 4D?

Using 4D enabled us to tell the story of World War II in a fresh way, to reach out and grab the attention of a new generation.

Scenic effects – from scrims and panels for media projections to almost life-sized props, including the nose of a B-17 bomber and a concentration camp guardhouse – were designed by Daniel Ionazzi, UCLA Theater Department's director of production. He paved new ground in terms of combining three-dimensional scenery and

 ©cybertrek 2011

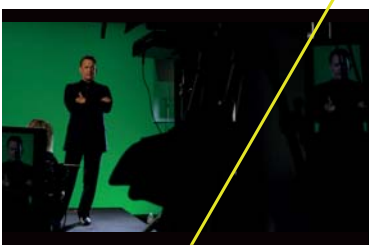
objects with computer-generated graphics and live-action video, as well as lighting and special effects.

Inspiration led to powerful on-screen drama, with authenticity. There's a scene depicting the American manufacturing machine that kicked into gear to produce all the tanks and planes that were needed for the war effort. We see a scene at a factory, like the one at Willow Run, where they were making rows and rows of bombers on the assembly line. We transition from that into the B-17 nose section flying down from above the stage to a position in front of the screen and taking viewers on a bombing run with hundreds of others, all of which are being hit by anti-aircraft fire. The plane is moving and the theatre seats are rumbling. There's smoke, there's wind, there's sound. All the elements have to work together perfectly.

Innovation brings challenges. The thing we had to be cautious about was the issue of scale – all the scenic elements had to blend with computer-generated graphic images or videos. There were also multiple images. Sometimes there was one overlaying textural scenic element and then, inset into that, videos of historical footage, newsreels or scenes that we shot here in Los Angeles, against a green screen, which is of actors representing soldiers walking through bombed-out Dresden.

What technology is involved?

What's distinctive about this project is the complexity of the production, and the number of different systems – multi-image projection, full surround audio, special theatrical effects, moving three-dimensional scenery and a state-of-the-art Medialon internet-based control system. This coordinates more than two thousand individual cues throughout the 35-minute presentation and is accessible remotely for diagnostic monitoring.



(Right) Tom Hanks was executive producer and narrator of the film. He also had some input with the script

Amazingly, it all operates automatically at the touch of one button. The goal is to make all of that technology invisible to viewers, as they are immersed in the telling of a powerful, emotional story.

What suppliers did you work with?

We had an amazing team of technical consultants and suppliers. Electrosonic did the system design and provided the projection and control equipment. Lighting was designed by Visual Terrain and the equipment was provided and installed by Bandit Lighting. Audio equipment was provided and installed by Soundworks. LA Propoint designed and fabricated the show action equipment. All the suppliers had to work in close collaboration with our creative and design team, as well as each other and our amazing media designers, Moustetrappe Inc, who produced the media, and Audio by the Bay who did the audio production.

Why did the project take five years?

Beyond All Boundaries provides that once-in-a-lifetime opportunity to tell a story of this magnitude. We had to ensure we got it right. Hurricane Katrina also hit while this project was underway, which had an impact on everything and everyone in New Orleans, including this project.

What feedback have you received?

Veterans and their families have been moved to tears by the emotional impact of the production. On the day of the premiere, many WWII veterans thanked me for telling "their story" in such a powerful way.

Beyond All Boundaries has been honoured with awards including a prestigious Thea Award by the Themed Entertainment Association and a 2010 Gold MUSE Award by the American Association of Museums. The MUSE awards jury proclaimed: "You have successfully created a brand new museum visiting experience... an outstanding and amazing project." ●

MYSTERY SHOPPER

THE WIZARDING WORLD OF HARRY POTTER OPENED LAST AUTUMN TO RAVE REVIEWS. BRC'S BRAD SHELTON VISITS THE ATTRACTION TO FIND OUT IF ITS FLYING START CAN BE MAINTAINED

A KIND OF MAGIC?

THE BACKGROUND

The Wizarding World of Harry Potter is a new themed area in Universal Parks and Resorts' Islands of Adventure, Orlando, US, designed to put guests inside several of the main set pieces in the Harry Potter film series and JK Rowling's books.

Opened in June 2010, the project is a joint venture between Universal Studios and Warner Brothers, with active involvement from the author herself.

THE OFFER

The Wizarding World of Harry Potter is made up of three main attractions – Harry Potter and the Forbidden Journey, Dragon Challenge and Flight of the Hippogriff. There's also a highly themed Hogsmeade Village with retail, dining and a replica of the Hogswart Express. Admission is included in the ticket price for Universal Parks and Resorts' Islands of Adventure.

Harry Potter and the Forbidden Journey, the area's E-Ticket attraction, is set inside an extraordinary re-creation of Hogwarts Castle. In the queuing area guests interact with characters and props from the Harry Potter series before taking a magical ride around Hogwarts Castle, through a group of dementors and into a Quidditch match on an innovative ride controlled by a Kuka robotic arm system.

Dragon Challenge is a re-theming of Islands of Adventures' Dueling Dragons coaster. It has two tracks, Hungarian Horntail and Chinese Fireball (named after two of the dragon breeds that appear in Harry Potter and the Goblet of Fire), which overlap and intertwine in pretty thrilling fashion, and is the only dueling inverted coaster in the world.

Flight of the Hippogriff is the area's family attraction. It is a re-theming of Universal's old Flying Unicorn attraction, and tells the story (loosely) of Hagrid teaching young wizards to fly on a Hippogriff.

Hogsmeade Village, which serves as the main thoroughfare in The Wizarding World of Harry Potter, is a highly themed re-creation of the village where students at Hogwarts go when they're not in school. It includes The Hogwarts Express, The Owl Post, where visitors can send letters, shops Honeydukes, Dervish and Banges and Zonko's, Filch's Emporium of Confiscated Goods and Ollivander's Wand Shop. Food and drinks can be bought from The Three Broomsticks and The Hog's Head.

MARKETING

The Wizarding World of Harry Potter has been marketed as thoroughly as the books and films. In Orlando, you can't go anywhere without seeing billboards of Harry Potter. There's been an international media blitz, including coverage of the opening on NBC News in the US.

ACCESS AND SIGNAGE

The Wizarding World of Harry Potter is easily accessible through Islands of Adventure's main entrance off Citywalk.

(Left) Actors make a trip to Ollivander's Wand Shop realistic; (right) dancers recreate a scene from *Harry Potter and The Goblet of Fire*

Attendance to Islands of Adventure went up 36 per cent in the quarter after The Wizarding World opened in June

ADMISSION PRICES

Admission to The Wizarding World of Harry Potter is included in the price of admission for Universal's Islands of Adventure, Orlando, US. Tickets can be purchased via the Islands of Adventure website or at the gate.

Ticket prices range from $74 (£47, €56) for a one-day, one-park child's ticket to $175 (£111, €132) for a seven-day, two-park adult ticket. For Florida residents, tickets start at $61 (£39, €46) for a one-day, one-park child's ticket to $105 (£67, €79) for a three-day, two-park adult's ticket.

The Hogwarts Castle hangs over the rest of the park, on the far side of the lake, and the area is easy to find via signage throughout the park. Once inside Hogsmeade, the signage is subtle and cohesive with the overall design – something that's not very typical in a theme park environment.

DISABLED ACCESS

Although I didn't get to experience disabled access through much of the area, it appeared that it was more than adequate and met all ADA [Americans with Disabilities Act] standards. In Harry Potter and the Forbidden Journey, disabled access requires guests to miss a large portion of the queuing area. This is usually a positive, but in this case, it means that disabled guests lose a great deal of interactivity with the characters and props from the Harry Potter series in the queuing area.

DESIGN AND LAYOUT

As a frequent visitor to theme parks around the world, I've become pretty jaded about theme park design. The Wizarding World of Harry Potter pierced through that from the moment I entered. Rather than feeling like a half-hearted attempt at immersion, the experience makes guests feel as though they're actually walking through Hogsmeade, actually buying wands in Ollivander's, and actually traversing Hogwarts. The attention to detail is unlike anything I've seen in a theme park before. It feels real and is designed to reward attentive guests with little extras in third floor windows and in signage that go well beyond anything I've seen anywhere. It has raised the bar, and expectations, for world-class theme park design.

From the opening view of Hogsmeade, with the Hogwarts Express framed by steep, snow-covered rooftops, crooked chimneys, and Hogwarts Castle looming behind, the design and its layout immerse guests in the world of Harry Potter in a way no other theme park that I'm aware of has

MYSTERY SHOPPER

(Clockwise from left to right) family ride Flight of the Hippogriff, Dumbledore's office and the hall of portraits in the queueing area where visitors meet the characters

ever achieved. However, the project can, at times, be a victim of its own success. Who could have predicted that you'd need to design for hour-plus queues to buy Butter Beer?

FOOD AND BEVERAGE

The food in The Wizarding World of Harry Potter goes well beyond typical theme park fair. Rumour has it that JK Rowling was very involved in choosing food options for the entire area. If that's true, guests should thank her. For the most part, the food plays an important role in the overall feeling of immersion that guests experience. It's delicious, surprisingly healthy (there's no soda!) and the Butter Beer is delicious.

RETAIL

Retail in The Wizarding World of Harry Potter is an essential part of the experience. Ollivander's Wand Shop is, in many ways, as good as any of the attractions – the two performers I saw do the show were first-rate. The souvenirs and Hogwarts supplies are seemingly high quality and feel like part of the world of Harry Potter, and the attention to detail (including Hogwarts students chatting in an aisle when you turn a corner) are extraordinary.

Prices are mostly reasonable. I bought two wands for my children in Ollivander's and spent almost $80 (£51, €60). They're beautiful, but they're sticks of wood. However, other souvenirs seemed within the normal price range for a theme park.

THE STAFF

The staff at The Wizarding World of Harry Potter could literally be out of Central Casting for the Harry Potter films. They're young, good-looking and in character, whether they're manning a cash register in retail or operating one of the attractions.

With a huge number of staff members, at least seemingly, English students, the staff play a key role in making guests feel as though they really are inside the wonderful world of Harry Potter.

WHAT'S THE SCORE?

Toilets	**9**
Staff	**10**
Cleanliness	**9**
Experience	**9**
Value for money	**9**
Overall experience	**9**

CLEANLINESS AND MAINTENANCE

Like most Universal attractions, The Wizarding World of Harry Potter is extremely clean and well-maintained. They've even made the entrance hall to the bathrooms part of the experience with characters talking to guests through a well-hidden sound system when they enter.

VALUE FOR MONEY

It's expensive, especially if you're going to buy souvenirs. Which, of course, you are.

Is it worth it? I think it probably is, although the rest of the park feels like it needs an upgrade after spending some time in Hogsmeade.

MY EXPERIENCE

I was a guest at The Wizarding World of Harry Potter twice, once in the afternoon and once in the evening for a special event. Both visits were extremely enjoyable – even for someone like me, who spends a great deal of time in theme parks around the globe. The entire experience offers a level of immersion that other theme park companies only talk about – which explains why attendance reportedly went up 36 per cent in the quarter after opening (over attendance figures for the previous year).

Are there any negatives? It can get a little crowded, which you'd expect with the enthusiasm for the IP, though the crowds seem to add to the excitement level for most of the people there. And it feels a little small – not because it is, but because I (along with a number of people I spoke to while waiting in line) wanted to spend much more time there.

With The Wizarding World of Harry Potter, Universal Studios has set a new benchmark for the theme park industry. They've achieved what every IP-driven theme park attraction is aiming for – an experience that connects guests with its story in a deep and meaningful way and has them leaving with an even more powerful connection to the IP. I'm sure the good folks at Disney's Imagineering have had many late night meetings to try to figure out how to respond. ●

Brad Shelton, director, entertainment development, BRC Imagination Arts

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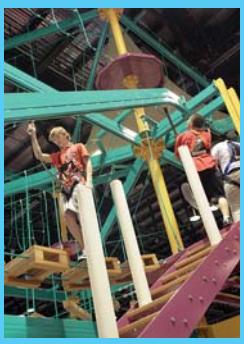
IAAPA 2010

MORE THAN 25,000 PEOPLE FROM 96 NATIONS ATTENDED IAAPA ATTRACTIONS EXPO 2010 IN ORLANDO IN NOVEMBER. KATHLEEN WHYMAN LOOKS AT SOME OF THE LAUNCHES AND NEWS FROM THE SHOW



VISITORS TO IAAPA WERE ABLE TO TRY OUT THE NEW PRODUCTS

THE LATEST INNOVATIONS WERE ON DISPLAY FOR ALL TO SEE AT THE EXPO

ABOUT IAAPA 2010

IAAPA Attractions Expo is the world's largest conference and trade show for the $24bn (£15.4bn, €18.6bn) attractions industry. Owned and produced by the International Association of Amusement Parks and Attractions (IAAPA), it serves as the marketplace for amusement parks and attractions industry leaders, decision makers and visionaries who gather to network, view the latest innovations, and plan for the future. The Orange County Convention Center estimated the five-day event had a $47.7m (£30.7m, €37m) economic impact on the Orlando/Orange County region. IAAPA recently announced plans to host IAAPA Attractions Expo in Orlando for 10 years, from 2010 to 2019.

Buyers from 6,484 amusement parks, waterparks, family entertainment centres (FECs), zoos, aquariums, museums, resorts, independent attractions, and casinos from around the world participated in IAAPA Attractions Expo 2010. The North and South halls of the convention centre were packed with exhibits from 1,140 companies that displayed their new products and services on 453,100sq ft (42,000sq m) of space on the trade show floor. They represented 33 countries and showcased new technologies, thrilling rides, ticketing systems, new food and beverage concepts, games of skill and much more.

Almost 9,000 attendees participated in 104 education programs, including sessions on industry trends, behind-the-scenes tours at Orlando attractions, all-day institute programs and show floor vendor tours.

THERE WAS NO SHORTAGE OF NEWS ON THE EXHIBITION FLOOR, WITH ANNOUNCEMENTS BEING MADE DAILY. HERE ARE A FEW OF THE HIGHLIGHTS

NEW R60 GIANT WHEEL COMING TO MYRTLE BEACH

Chance Morgan, Inc, US, announced that it is supplying Myrtle Beach's newest attraction, the SkyWheel, which will open in May 2011.

The R60 Giant Wheel will stand at 187ft (60m) and span two ocean front lots along Ocean Boulevard, on the north side of Plyler Park. Its 42 glass-enclosed, temperature-controlled gondolas can each hold six people.

Plans for the SkyWheel include a full service restaurant, an observation deck overlooking the ocean and a gift shop. It will also incorporate a programmable LED light show in the evening.

The SkyWheel at Myrtle Beach Landing is owned by Myrtle Beach SkyWheel, LLC, a joint venture between Koch Development Co and Pacific Development, both of St Louis, Missouri.

BOB RIPPY BECOMES IAAPA CHAIR FOR 2011

Bob Rippy, president of Jungle Rapids Family Fun Park in Wilmington, North Carolina, US, was welcomed as chair for IAAPA's board of directors for 2011.

In 1985, after a successful career on Wall Street, Rippy became a silent partner in Jungle Rapids, a family entertainment centre in Wilmington, North Carolina, US. In 1990, Rippy purchased the park and expanded it to include a waterpark. (See AM Q4 10)

The board of directors also selected the officers for the organisation for 2011: Roland Mack, managing director of Europa-Park, Germany, as first vice chairman; Will Morey, president and CEO of Morey's Piers, New Jersey, US, as second vice chairman; and Mario Mamon, chairman and president of Enchanted Kingdom, Philippines. IAAPA president and CEO Charlie Bray is also an officer of the association.

BOB ROGERS INDUCTED INTO IAAPA HALL OF FAME

Bob Rogers, founder and chief creative officer of attraction design firm BRC Imagination Arts, has been inducted into IAAPA's Hall of Fame.

Every year, the IAAPA Hall of Fame inducts between one and four individuals who have made extraordinary contributions to the industry. Rogers is the only living recipient to have been inducted in 2010.

Rogers has spent more than four decades in the industry and founded BRC 30 years ago. He has designed for many international organisations including Ford, Heineken, NASA, Disney, the Abraham Lincoln Presidential Library and Museum and created 11 national and corporate presentations at six major World's Fairs.

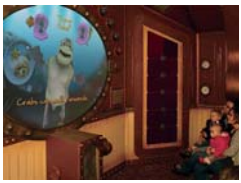
"Bob is a storyteller par excellence and his influence on the attractions industry is huge," said Tim O'Brien, chairman of the IAAPA Hall of Fame and Archives committee, at the induction ceremony. "From his early work, producing films for Epcot, to the cultural work for which he is renowned, Bob continues to raise the bar and set new standards for the industry. We welcome him to the Hall of Fame and look forward to seeing what he comes up with next!"

BOB ROGERS (LEFT) IS INDUCTED INTO THE IAAPA HALL OF FAME BY TIM O'BRIEN

Also inducted, posthumously, were Will Koch, owner of Holiday World & Splashin' Safari, Indiana, US, Don Clayton, founder of Putt-Putt Golf and Games, North Carolina, US, and Daniel Hudson Burnham, creator of the 1893 World's Fair in Chicago.

IAAPA Attractions Expo

IAAPA 2010 SHOW NEWS



ANIMALIVE RECEIVES BEST NEW PRODUCT AWARD

Animalive was awarded Best New Product at IAAPA 2010, winning in the 'Family Entertainment Center, Rides and Attractions' category.

Animalive received the award for the ChatterBox Party Room, which allows guests to appear on-screen with a live, interactive animated character. Each guest receives a DVD recording of the party.

This is the second year running Animalive has been awarded the title of Best New Product, having won in the 'Show Production and Entertainment' category at IAAPA 2009.

"To win a second award from IAAPA is truly an honour. This is a positive reflection on our developing interactive technologies," said technical director Ali Kord.

PREMIER RIDES TO BUILD FIRST MAGNETIC LAUNCH COASTER IN INDONESIA

Premier Rides is to build the signature attraction for the new Trans Studio Theme Park at Bundung Supermal in Indonesia.

This will be the first launch coaster in Indonesia using a magnetic system. The train will travel forward and backwards and riders will experience a maximum of 1G when pushed back in their seats.

Riders will be taken to the maximum speed within two seconds. They will then be shot up, almost vertically, into an inverted top hat element before racing down the second half of the top hat element. After being launched into a tower, the train will stop, then accelerate backwards through the entire course of the ride.

THE LITTLE PRINCE FROM NWAVE

The Little Prince is now coming to the screen, thanks to nWave's adaptation of the famous book.

The 13-minute 3D/4D film opens with a father reading the book to his son. Viewers are then taken on a new adventure with characters from the book to visit a variety of planets before The Little Prince reaches Earth. nWave worked with Method Animation of Paris, which is doing the tv series, on the character development and story, but the entire film was created at the company's studio in Brussels.

Producing a top quality film which could rival a cinematic feature film was the company's priority. Rather than being converted from an existing film, *The Little Prince* has been designed as an immersive 3D/4D experience so that exhibitors with physical effects in their theatres can program their seats in a very efficient way.

The film cost more than €4m (£3.3m, US$5.2m) to make, which CEO Ben Stassen admits is a huge amount for an attraction. "It's a very expensive attraction for us to produce, but we've done it with *The Little Prince* because it's an important property," he says. "We've raised the bar in terms of quality animation. With such a well-known product, which has enormous international appeal – it's the most sold individual fiction book in the history of literature – you can't afford not to. We hope that the high standard of animation and the 3D will have great appeal."

nWave launched the film at IAAPA and several sales have already been made, although details are yet to be released.

 ©cybertrek 2011

SALLY CORPORATION'S POWER BLAST X DARK RIDE

Power Blast X, Sally Corporation's newest dark ride concept, features interactive video technology. Visitors are enlisted to travel to a distant planet to save Earth from the machinations of a band of notorious space pirates who are intent on stealing all the energy in the universe.

Power Blast X with Viper SixD is an immersive, space-age adventure with interactive video targets, interactive animatronics, fixed and moving targets, rotating vehicles, seat vibration and other special effects.

Additionally, the shooting device, which is equipped with an electro-magnetic sensor, allows the rider to track six degrees of motion, which gives the video images a 3D quality. It also gives participants the ability to move images forward/backward, up/down, left/right, combined with rotation about three perpendicular axes – yaw, pitch and roll.

The ride is designed for 12 vehicles and has a throughput of 900 people per hour, using six-passenger vehicles.

"The initial design offers a smaller footprint than our standard dark rides," says CEO John Wood. "We've had many requests for a ride that would fit into smaller, existing buildings. With Viper SixD technology, and four major play areas with 16ft x 9ft (5m X 2.75m) screens where the vehicles pause to engage the virtual characters, plus additional scenes, we can offer an exciting and challenging ride experience in an 8,000sq ft (743sq m) space."

Wood adds that this technology and ride concept is flexible and can be adapted to a variety of themes, storylines and facility sizes.

LO-Q'S QUEUING SOLUTION FOR WATERPARKS

Lo-Q plc promised guests an end to standing in queue lines with the launch of Q-credits. The product is a lightweight, waterproof wristband that clocks up time credits, eradicating the need to queue and enabling guests to relax and enjoy their day in the park. Once they've accumulated enough credits, they can choose which ride to enjoy.

Q-credits also adds security and convenience for waterpark guests as they don't need to carry cash or credit cards in the park. Instead, the wristband displays the e-cash available, which can be used to pay for food and drink.

The product can be branded and customised to reflect an individual waterpark's style or promote its special offers. It also provides access control to the park and can act as a smart key for lockers.

Q-credits was tested by visitors to Aquopolis waterpark in Spain in the 2010 season.

RIPLEY'S VISITORS TO CHALLENGE RECORDS

Ripley Entertainment unveiled its Guinness World Records attractions at its booth, which won IAAPA's Image Award.

The new Guinness attractions will feature approximately 75 interactive challenge stations for people to try and break records, such as scoring a goal on a virtual football field, pulling trains, breaking blocks of ice or getting the most points ever scored in one turn in a game of Scrabble. The company hopes to increase the number of multiple visits through people coming back and attempting to break their own records.

The Guinness attractions have been designed to allow operators to pick exhibits or modules that best fit their needs for their specific location.

The company currently has five Guinness World Records attractions around the globe, with corporate-owned attractions in Gatlinburg, US and Copenhagen, Denmark. Ripley plans to start construction of the new prototype this year. ●

GETTING INTO HOT WATER

A fire destroyed Western-Super-Mare, UK's Grand Pier in July 2008. Rather than allowing his dreams to be destroyed, owner Kerry Michael tells Kathleen Whyman how he not only rebuilt the pier, but doubled its size and offer

WHAT HAPPENED?

On 27th July 2008, I left the pier at about 6pm and went straight to the airport to go on holiday. At 7am the next morning, my sister (who's my business partner) rang and told me that the pier was on fire.

I put the tv on and Sky News was showing the fire, which very quickly escalated. I got in the car and went straight to the airport. I was numb all the way home.

When I got to the pier, there were thousands of people around, but it was almost silent. It was as if I was outside looking in at someone else's nightmare. It just didn't seem as though it could be real.

The pier took more than a year to rebuild after the fire

HOW LONG DID THE FIRE LAST?

People arrived on the scene at about seven o'clock in the morning. Within an hour and a half there was nothing left – it had completely burnt itself out.

WHAT HAPPENED IMMEDIATELY AFTERWARDS?

We cordoned off the underside so people couldn't get under there because stuff was still falling through. As soon as we'd done this and knew the site was safe, which took three days, we opened again. There wasn't much left, but what we had we opened. We then set about planning the rebuild.

WHAT DAMAGE WAS CAUSED?

The pavilion was burned to the ground. The sub structure – the steel underneath – was, remarkably, still in tact. The secondary steels, the ones that sit on top of the piles were damaged and had to be replaced, but the piles themselves, the bit that was 105 years old was relatively untouched. Above the deck there was about 500 tonnes of twisted steel. Other than that, everything we had was gone.

HOW DID THE FIRE START?

No idea. The investigation that was carried out concluded that it wasn't a kitchen fire or arson. The official verdict was that it was probably an electrical fault although they were not able to offer any evidence for that.

WHAT WAS YOUR ACTION PLAN FOR RESTORING THE PIER?

We set a design competition among a number of architectural practices and chose a design by Angus Meek Architects of Bristol, UK (see P54).

We requested planning permission in December 2008 and received it in March 2009. By this time we'd cleared the site and had started the enabling works to the sub structure. Although most of it was undamaged by the fire, the modern building was much heavier than the new building, so it needed substantial work.

We then went out to tender for the main contract works for the new building. That contract was awarded in August 2009 with a completion date of June 2010, which unfortunately wasn't achieved. We actually opened in October 2010.

WHAT DOES THE NEW PIER OFFER?

The original pier had four rides and about 300 slot machines. When my sister and I bought the pier in 2008, we spent £1.5m (€1.77m, US$2.36m) improving the catering, adding three retail outlets, a Go Kart track and a climbing wall.

The new pavilion has 14 major indoor rides. These range from family activities,

 ©cybertrek 2011

The fire completely destroyed the pier although the original piles, built more than 100 years ago, remained intact

such as a mirror maze, a Play Revolution climbing frame, and the traditional ghost train, dodgems and helter skelter, to Moser's Rides' thrill rides plus F1 simulators from Cruden, a Robocoaster from Kuka, a 4D, 50-seater cinema by Simworx, Funovation's laser maze and a 300m (984ft) indoor Go Kart track. We also have 26 outlets for food, beverage and retail and 500 machines, only 40 of which are gamblers. The rest are amusement machines.

We also have two function rooms. The Tiffany Room trades as an Edwardian tea room, but is also available for private hire and seats 200 people banquet style. The Regency Suite seats 400 people banquet style. During the winter, we can convert the main hall into an events space. We're licensed for 3,000 people for concerts, 2,000 conference style and 1,000 banquet style. We hold balls and we hosted the finals of Miss Great Britain. We've had 600 enquiries so far for 2011 ranging from weddings to board meetings to concerts.

DOES THE PIER LOOK DIFFERENT NOW?

It's on the same footprint, but it's a much taller building. The original pier had 45,000sq ft (4,180sq m) of customer space, we now have 95,000sq ft (8,825sq m).

HOW MANY VISITORS HAVE YOU HAD?

The first week we had 40,000 a day. We're now seeing about 20,000 on the busiest weekend days and between 3,000 and 6,000 on the week days.

WHAT BUILDING PROBLEMS WERE THERE?

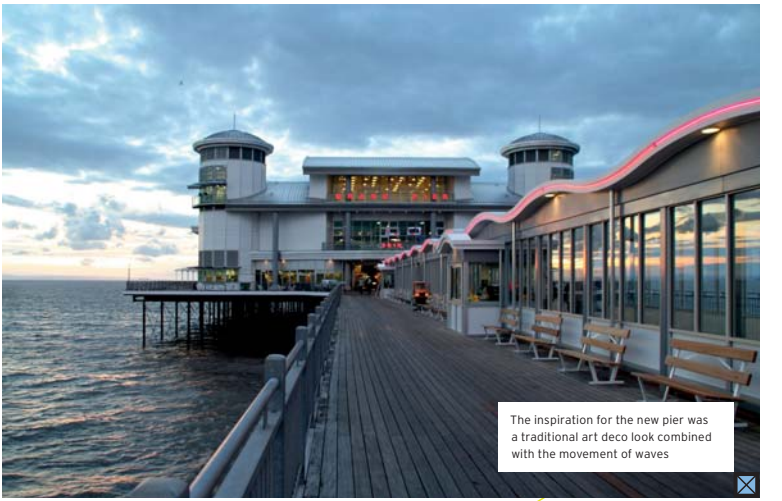
We're a quarter of a mile out to sea. The structure wasn't strong enough to support the delivery vehicles or some of the components we needed, so supplies had to be floated out on barges. We had big cranes that were lifting stuff off the beach and bringing it across. It was an incredibly complicated build.

WHAT WAS THE BIGGEST CHALLENGE?

A number of rides were built for us here in the UK, but unfortunately the company building them went into liquidation. We had to finish the rides and install them ourselves. We had a £39m (€46m, $61.5m) budget and the only bit where we went over budget was the rides we commissioned in the UK. That was just a disaster.

HOW LONG DID THE INSURANCE CLAIM TAKE?

The insurance claim wasn't concluded until September 2010. It was a complicated issue and while we didn't end up



The inspiration for the new pier was a traditional art deco look combined with the movement of waves

in litigation, we had lawyers and barristers involved. We received some interim payments, but had to fund a big part of it. The insurance covered less than half the rebuild cost because the new building is significantly different from the old.

WHAT FIRE PREVENTION DO YOU HAVE?

We now have a water hydrant that runs the entire perimeter of the pier, fire fighting equipment and hoses in lockers placed all around the pier. We also have a full fire alarm system, a sprinkler system and 24-hour, manned security, seven days a week. Since the fire, we've never left the structure unattended.

WHAT ARE YOUR FUTURE PLANS?

Our intention is to never let it date. I'd rather spend something every year, updating, upgrading and modernising facilities than spend nothing for 20 years, then have a bill of several million pounds.

We have two rides in planning. First is Surf's Up – a giant surfboard which holds 20 people, goes up and down a wave and rotates. That should be in place for summer season 2011. For summer 2012 we're hoping to have our tower built – a 300ft (91m) observation tower with a giant gondola that holds 70 people. The infrastructure's in for both the rides, it's just a case of adding them. Beyond that we'll be replacing rather than adding rides, as the floor space is pretty full.

THE PIER'S DESIGN

Angus Meek Architects of Bristol, UK won the competition to design the new pier. Director Roger Ellams describes his modern version of a historic tradition

What was the original brief?

The most salient feature of the pier was that it had to be a flexible space accommodating different uses, so it could be a year-round attraction. They wanted a traditional pier in the summer and the ability to host events in the winter, such as a circus.

What was your design?

We produced a modern version of a historic pier. Over time, piers have developed to suit their era and we were trying to follow on from that. Western-Super-Mare's first pavilion was a music hall, secondly it offered slot machines, now it's a contemporary building offering entertainment, but it still looks like a pier.

What was your inspiration?

Both of the previous two piers had corner towers so we started with that. We tried to reference the original pier rather than replicate it and took inspiration from seaside architecture, such as art deco images and wave forms.

Why did you win the competition?

When we put the competition in, it went straight to a public exhibition. People could understand it and see that it looked like a pier building, it wasn't too removed from what it was before and people could relate to it. It wasn't an ultramodern building, which some of the other designs were.

What were the main challenges?

One of the biggest issues was getting the building to work structurally. It was a modern structure threaded between the legs of the existing pier deck. Half of the building is sitting on the old pier structure, and half is sitting on the new structure, and they don't necessarily move at the same time.

Another challenge was working out what a pier consists of and what all the bits and pieces that go inside are. Nobody's built a modern pier with modern equipment inside it before.

What are you most pleased with?

The overall appearance of the building. It's a subtle building and it's colour changes depending on the time of day and whether the sun's shining. ●

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At Global Immersion, we continually strive to develop and engineer the most innovative, leading-edge immersive theater solutions so your visitors can re-live childlike excitement and amazement during each and every performance. From the exhilaration of a 4D theater, to the wonder of a stunning 3D planetarium, our job is to create your emotion.

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After closing for renovation work in 1994, Moscow Planetarium is at last reopening in April. Anastasia Kazantseva tells Kathleen Whyman how the planetarium has been transformed into a modern facility while retaining the original architecture

FROM RUSSIA WITH LOVE

WHAT'S THE MOSCOW PLANETARIUM'S HISTORY?

The Moscow Planetarium closed for renovation work in 1994. It's taken 17 years for the planetarium to reopen for a variety of reasons: economic (due to a default in 1998); legal (there was conflict between the business operators); and financial (because of a lack of regular financing).

The Moscow Planetarium will be the largest cultural educational centre in Russia, meeting all the demands of the 21st century, both technically and in the variety of scientific, educational and cultural programs.

The opening ceremony will be on April 12th – the 50th anniversary of the first human spaceflight by Yuri Alekseyevich Gagarin.

PLEASE DESCRIBE THE PLANETARIUM

The planetarium has the largest dome in Europe with a diameter of 25m (82ft) and ground space of 1,000 sq m (11,000sq ft). As well as two observatories, the planetarium offers an open-air museum and a 4,000sq m (43,000sq ft) interactive museum displaying models of the moon, the earth and the sun.

There will also be a classic museum showing the universe on a tilt. The 364-seat Star Hall planetarium in the dome is where we'll show the starlit sky and full-dome films. We will also provide cultural and educational programs, lectures and meetings with scientists. The second theatre is a 4D cinema and the third is the Small Hall, which will be used as a studio for the Star Hall's programs.

WHAT INSPIRED THE NEW DESIGN?

The Moscow Planetarium first opened in 1929. Designed by architects Barsh and Sinyavskiy in the shape of an egg, it soon became an iconic building. In 1944, the planetarium was closed for repairs and the architects decided to reconstruct the old planetarium, rather than build a new one.

It was very important to maintain that architectural monument and complement it with new technical innovations. The architects were able to retain the planetarium's appearance and design, but enlarge the space and expand its functions.

WHAT IS THE CONCEPT OF THE PLANETARIUM?

The planetarium is a cultural and educational centre, offering a view of the sky in all its splendour, diversity and beauty and inviting visitors to dive into the universe.

Our mission is to present scientific knowledge in a simple way to provoke interest for learning, help people realise their place in the universe and encourage them to understand this creative process.

WHO IS THE TARGET AUDIENCE?

We predict receiving 1,500,000 visitors each year, 80 per cent of which will be children. Our main goal is to encourage children to learn about the world and cosmos, and to attract new people to the science of space.

We will offer scientific, educational and cultural programmes, complying with the level of training and understanding for children from the age of five, for schools and student groups and for general visitors. The main element of our educational activity is membership in amateur astronomy clubs, which comprise several stages of learning.

WHAT REPAIR WORK HAS BEEN DONE?

An immense amount of work has been carried out on the planetarium. We've renewed all the engineering services, installed ventilation and air conditioning systems, reinforced the original supporting construction of the building and concrete dome of the main hall, installed a new dome screen and replaced the coating of the outer dome.

 ©cybertrek 2011

(Left) the original architecture is being retained, but the building will be six times bigger with four theatres for astronomy shows and films (above)

THE INSTALLATION

We're now in the final stage of reconstruction, so finishing and installation works are coming to the end. We believe it will be something unique, which has never been done in Russia before.

HAS THE LOOK CHANGED?

The appearance of the building can't differ greatly as we wanted to retain the original architecture. However, we've been able to enlarge the space of the building practically six times, making it 17,000sq m (183,000sq ft). One of the planetarium's distinctive features was that the main historic building was 6m (20ft) above the ground. Now a new access ramp leads to the building.

The old astronomic ground has been replaced with the museum building with the Sky Park, an outdoor exhibit area featuring a model of StoneHenge, on its roof.

HOW WILL YOU DEVELOP IT?

We intend to develop and advance the whole range of projection technologies, to create full-dome products (educational programmes and films), to work with scientists, to develop the amateur astronomy clubs and to provide scientific and methodic assistance for regional planetariums.

MOSCOW PLANETARIUM IS AIMING TO BECOME ONE OF THE MOST TECHNOLOGICALLY ADVANCED VISITOR EXPERIENCES IN THE WORLD. GLOBAL IMMERSION'S MARKETING MANAGER, BETH NICHOLAS, DESCRIBES HOW ITS TEAM IS HELPING THE FACILITY REACH THIS GOAL

What was your brief?

Moscow Planetarium's vision is to bring the latest technological experiences into a traditional planetarium and science centre environment and become a landmark site for immersive theatre, while keeping the technology as seamless as possible.

Competing as an attraction with the likes of nearby IMAX theatres, shopping centres and cinema multiplexes, the museum is keen to celebrate and communicate the strong Russian space heritage and the spirit of Yuri Alekseyevich Gagarin is conveyed throughout the facility.

Moscow Planetarium needs enough internal facilities and attractions to make this a full-day trip for paying customers and to encourage them to return and experience something entirely new each time.

What work are you doing?

Global Immersion is installing two digital planetarium systems, a large format 3D theatre, a mini 3D planetarium a 4D cinema, conference room facilities, observatory telescope systems and a full render farm and production facility.

Each project employs display and media management technologies from one end of the spectrum to the next – the objective has been to intelligently adopt new products and systems for the unique application that each of the theatres present.

Each zone in the museum has a different remit – to produce and edit media, entertain young children with short 4D movies, or stun audiences with newly captured telescope data from the state-of the-art observatory adjacent to the visitor attraction.

Mirage3D fulldome production Natural Selection is among the films which will be shown

What is the planetarium's offer?

There are four theatres, which have been custom designed to accommodate the wide range of media that the planetarium plans to offer to its extensive target audiences.

The predicted annual attendance figure is 1.6 million visitors – this is highly achievable due to the central location and heritage of the planetarium, yet as a projected figured, hugely exceeds attendance numbers of similar facilities around the world.

There are more than 200 exhibits in the museum in addition to the theatres. The museum has its own (heated!) underground car park, conference facilities, food halls and gift stores. Everything has been planned to maximise visitor numbers and retention. The interchangeable and configurable nature of every area within the museum will meet the demand of large visitor numbers of all ages across corporate, public and state programs.

The client didn't want any limitations with its new theatres and worked closely with us to ensure our designs matched, or exceeded, their expectations. The core objective was of flexibility and scalability for the future. The new Space Museum in Moscow will be one of the most technologically advanced visitor experiences in the world.

How will the planetarium compete with other attractions?

The core theme of the planetarium's chosen media will continue to be astronomy, but the team are keen to introduce varied genres. This will attract different audiences and meet the state's educational objectives, while also strongly positioning the attraction as a highly competitive and enticing venue for people of all ages and backgrounds. We're integrating a range of shows, including nWave productions for the 4D and large-format theatres and fulldome shows from Mirage3D and Spitz for the planetariums.

> Many of the systems have been designed from scratch to ensure that, once delivered, they remain up to date and state-of-the art

The turnkey approach we've taken means that we're pre-programming each of the new shows to fully integrate with all the various effects. In particular, the D-Box Motion Code system has been fine-tuned exclusively for the theatres to offer audiences precision motion throughout the show.

What technology is involved?

The scope of each of the projects is extensive and the client had clear ideas of its needs before Global Immersion entered the project. As ideas and concepts for each of the theatres were refined through detailed analysis of existing and road-mapped technologies, we were all in agreement that we wanted to use leading-edge product releases throughout the facility. Many of the systems have been designed by Global Immersion from scratch to ensure that, once delivered, they remain up to date and state-of-the-art.

In addition to the core theatre solutions, we're supplying a telescope and observatory solution. This includes two 16in (40cm) telescopes – one night time, one day time – and high speed and resolution CCD (video and still) capture cameras, which will be used for content creation and near real-time display for the main planetarium.

We'll also be able to take telescope data from the two adjacent observatories and bring these datasets into the dome theatres to present to audiences. The chief astronomer at the facility plans to show home-captured telescope data simultaneously with the digital panorama and starball systems in the main planetarium.

 ©cybertrek 2011

The D-Box motion seats offer precision motion throughout the shows. They will be installed in all the theatres

Why did the operator choose to use Global Immersion?

Our 4D theatre has the capability of presenting real-time media to audiences, with the 4D effects systems running simultaneously in real-time to enhance the experience.

Each of the theatres is generic and hasn't been designed around the objective of the media or planned presentation – a common goal of the theatres is that of general purpose. Any media, any visitor and any experience can be had in these environments. Also, all of the theatres are fully integrated with each other and controlled from the central technician facility.

How can the systems be developed in the future?

Scalability of the system designs has been a hugely important objective throughout the project. Future enhancements and upgrades, particularly with regard to production capability, are of utmost importance.

As an example, we've designed the render farm to be able to use GPU (Graphics Processing Unit) rendering in the future. It can also increase the storage to an almost infinite size – at present, the total storage capacity is 312 terabytes.

The system has been imported into Russia as a supercomputer!

ABOUT THE PROJECTS

BEHIND THE SCENES, THE GLOBAL IMMERSION MEDIA SERVER SYSTEM HOLDS AN EXTENSIVE BANK OF SHOWS AND SOFTWARE THAT WILL FEED AND MANAGE ALL THE NEW THEATRES.

THE MAIN PLANETARIUM

- 25m (82ft) in diameter.
- 364 seats in a unidirectional configuration.
- Digital system 1: seven-channel Fidelity Bright digital fulldome solution – 14 double-stacked projectors located around the periphery to accommodate the large dome and client's requirement of a high brightness display.
- Digital system 2: Fidelity Bright digital panorama system – comprising four ultra high brightness and contrast projectors located around the periphery of the dome. What's unusual about this configuration is that it acts as a hybrid system – synchronised with the new Zeiss Universarium starball projector. The resulting display is a digital wrap around working in harmony with the optical starball projector, which will fill the dome above the audience. It's effectively a planetarium system within a planetarium system. This is the first time it's been done in this way. This system will be used specifically for public and state educational programs.
- Digital system 3 (large-format): Fidelity 3D comprising two Sony SRX T420 digital cinema projectors creating a projected giant-screen viewing area of 17m (56ft) across in 3D stereo on the dome screen surface. This area will be used to present real-time astronomy and visualisation and playback media.

THE MINI PLANETARIUM

- 4.6m (15ft) diameter.
- 11 custom motion seats featuring the D-Box motion code.
- Two digital planetarium systems: Fidelity Go digital fulldome projection system featuring LED technology and Fidelity 3D digital projection system for an active stereo experience.
- Serves dual purpose – as a production environment for producing approved public education programs for the Russian federation, and as a children's theatre in a small, inviting and invigorating environment.

The main planetarium is in the building's iconic dome and will feature real-time astronomy shows

THE 4D CINEMA

- 47 custom motion seats featuring the D-Box motion code.
- Located on a different level within the science museum, adjacent to the main planetarium.
- Two playback servers run the 4D theatre – one of which is the Global Immersion Fidelity Play. The other is provided by Dolby 3D and is fully DCI-compliant, giving the planetarium the flexibility to run both real-time presentations and blockbuster shows sourced from around the world.
- The D-Box seating and other 4D theatre effects can be quickly programmed into shows by the team at Moscow Planetarium, so shows which aren't intended for 4D application can be effectively tuned and customised for the client to show.
- Effects include leg ticklers, heat, wind, smell/olfactory and snow.
- The cinema will have different opening hours to the rest of the facility and theatres. Its late-night openings aim to generate additional revenue.
- The theatre will be used to primarily feature entertainment programmes, but will also be used in an educational capacity to complement the other theatres and exhibits in the museum. ●

Winning Formula

ONE OF THE RICHEST STATES IN THE WORLD, ABU DHABI, IS TRANSFORMING YAS ISLAND INTO A LANDMARK ENTERTAINMENT DISTRICT WITH A NUMBER OF UNIQUE ATTRACTIONS. DAVID MINTON, DIRECTOR OF THE LEISURE DATABASE, REVIEWS THE DESTINATION

Yas Island's on track to fulfilling its aim of becoming a world-class destination, with luxury hotels, a golf course, marina, concert venues, an F1 race track and the largest indoor theme park, Ferrari World Abu Dhabi.

Ferrari World is the bearer of many spectacular statistics and its 201,000sq m (2,200,000 sq ft) roof is impossible to miss if you arrive by air or travel on the newly opened 10-lane Sheikh Khalifa Bin Zayed Highway. The building contains enough aluminium to make 16,750 Ferraris or cover the Vatican City in Rome. Alternatively, if the building was put on end, it would be the world's tallest building at 300-storeys.

But the building is not just about scale, it's also about beauty. The international architectural firm Benoy took inspiration from the classic double curve profile of the Ferrari GT chassis, which in turn gave rise to the external dynamic scale of the building at 700m (3,000ft) with a grace that reflects a Ferrari's sinuous form. With expectation running high, the spectacle continues once inside, with a 'grand funnel' at its core. This fully glazed funnel is latticed with a spider system that floats over the frame, creating another neck-breaking floor to ceiling light well more than 100m (328ft) in diameter. I remember when Tate Modern opened in 2000 – I entered the vast former turbine hall and loved the space so much that it took a few visits before I ever ventured out to any of the permanent exhibitions. The Ferrari World building instils a similar feeling of just wanting to enjoy the space. But Ferrari is the essence of speed and among the 19 rides and attractions, the G-Force ride is the centrepiece, literally, of speed and thrill – hidden from view inside that grand funnel.

THE RIDES

The signature ride is Formula Rossa, which achieves a gut-wrenching 60mph in two seconds and a top speed of 150mph in just five seconds. I have to confess I never did get the protective goggles, the rocket force 'Gs that go with it and the disconcerting loops and corkscrews that make passengers emit primeval screams, as the ride was closed for safety checks. After seeing the photos of F1 drivers Alonso and Massa on the Formula Rossa looking as though they were about to go into plastic surgery, my relief was palpable.

There are many rides and attractions for children, and Ella, a friend's seven-year-old daughter, was ready to try them all. The Junior GT, the only driving school where you get behind a scaled down 430 GT Spider and receive a photo-ID Ferrari driving licence, created a huge impression and left her oh-so keen to progress to the Junior Grand Prix ride with scaled down Ferrari F1 racers. Adults can get more of a feeling for the real thing with the Scuderia Challenge. These are state of the art racing simulators where you can race a variety of Ferraris on the virtual Yas Marina

Bell'Italia takes riders through a miniature recreation of Italy's most famous locations in a vintage Ferrari

 ©cybertrek 2011

As the world's largest indoor theme park, Ferrari World Abu Dhabi, along with the F1 race track, is helping increase tourism to Yas island

Circuit. I'm not sure how many times you need to practise to achieve an average of 186 kmph – the fastest visitor speed so far – compared to my 34 kmph, but my subsequent overriding desire for a 'seat that's not moving' dashed my dream of challenging the professionals behind the wheel.

We enjoyed the V12 water ride, which takes you on a journey into a 12 cylinder 599 engine, hence the need to cover up in waterproofs as you splash past the churning cylinders. Ella loved the Speed of Magic ride which is a "4D fantasy dreamscape where no Ferrari has gone before".

We didn't get to experience the Italian concept restaurants and cafes, but I did buy Italian gelati, which were so good we thought about going back for more until the shopping experience took hold. Yes, the largest Ferrari Store in the world with the largest range of official merchandise is waiting to entice you, both around the park and as you leave the attraction.

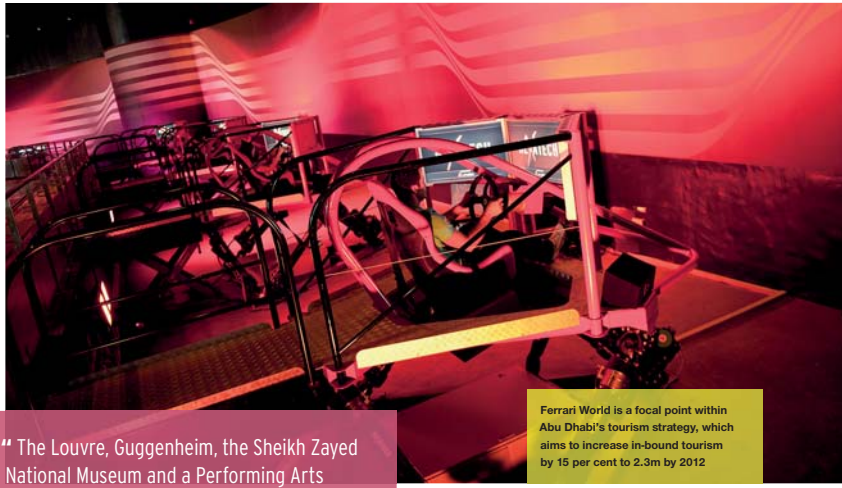
THE DESIGN

Concept, design, rides and attractions all get the thumbs up, but there's clearly work to be done on management of this colossus. The site is owned by Aldar Properties, which has one of the iconic headquarters buildings in Abu Dhabi, and is managed by Farah Leisure Parks Management, a joint venture company between Aldar Properties and ProFun Management. The Farah team has some of the best CVs possible – Disney, Universal Studios, Sea World, to mention just a few – and it's true that these sites do deliver 'out of this world' experiences. But, just as the economics in the Middle East are different from the west, so is the culture and more consideration needs to be given to this.

The building is open from Tuesday till Sunday, 12 noon till either 10pm or midnight. Just as in Disney, you can pay extra to skip the queues. If you're above 1.5m (5ft), general admission is AED225 (£40, €47 US$62) or a premium ticket costs AED375 (£70, €83, $108). For those below 1.5m, the price is AED165 (£30, €35, $46) or AED270 (£50, €59, $77). The only problem is that the so-called premium queue is longer than the general one, as the price differential isn't enough for most local visitors, who just happen to be very wealthy.

CULTURAL DIFFERENCES

The other strange concept for people who have money is the need to queue at all. On some rides, such as the V12, there weren't enough waterproof coats to go round and they were wet from the previous ride. Women in their intricate jewel-encrusted abayas and Louboutin high heels were understandably concerned about getting wet and being parted from their designer bags for the duration of the ride. The men in the traditional white kandura, or dishdash, and their guthra headscarf had similar worries. The more popular rides



Ferrari World is a focal point within Abu Dhabi's tourism strategy, which aims to increase in-bound tourism by 15 per cent to 2.3m by 2012

> " The Louvre, Guggenheim, the Sheikh Zayed National Museum and a Performing Arts Centre designed by the architect Zaha Hadid are just some of the attractions being built "

like the Scuderia Challenge needed timed tickets, but when the day's allocation had gone by 8pm, the ticket office closed. A catch-22 situation developed where people couldn't get the timed tickets but weren't allowed to take up empty simulator seats.

It's early days and I visited during the soft launch phase, so I'm sure people are working around the clock behind the scenes monitoring and fixing things.

Even if Ferrari World fails to generate revenue commensurate with the undisclosed but significant cost of construction, it will establish itself as a focal point within the Abu Dhabi tourism strategy.

VISION 2030

Emirate's Vision 2030 is an example of how long-term planning extends. The growth strategy talks of five-yearly goals and of course Abu Dhabi has deep pockets. Investment, put at US$130bn (£84bn, €99bn), should enable the 10 non-oil focus sectors, tourism being one, to raise 50 per cent plus of GDP in the economy by 2012. Abu Dhabi Tourism Authority is aiming for a 14 to15 per cent annual increase in in-bound tourists with a target of 2.3m next year. When you see the Guggenheim effect at Bilbao, which has seen tourism grow by a factor of 10 since the museum opened and remember that Abu Dhabi will have not one stunning attraction, but two islands, full of big brand names, these growth figures seem conservative. The second nearby island of Saadiyat will focus on art and culture – the Louvre, Guggenheim, the Sheikh Zayed National Museum and a Performing Arts Centre designed by the architect Zaha Hadid are just some of the headlining attractions being built.

Just one year on, Abu Dhabi has already witnessed the effect that a stunning F1 race track, located right next door to Ferrari World, has had in doubling visitor numbers over the second F1 weekend. Even the most cynical have been taken aback by the sheer scale of the investment and commitment given to the sport.

If the racetrack isn't sufficient, the Yas Yacht Club, Shams Tower and the Yas Hotel, which at night shimmers like a multi-coloured jewel thanks to 4,800 roof panels that change colour, provide further distinctive architectural landmarks.

A series of free events across the city helps pull in the crowds. Around 80,000 people were packed into the natural amphitheatre formed between the halves of the Ferrari World fishtail to hear pop legend Prince. He'd watched the F1 race from the marina, toured Ferrari World and then gave a storming performance, before summing up the experience with the new chorus line, 'Whoa, Abu Dhabi!'. And the audience cheering in the warm night air agreed. ●

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EXPERIENCE: PASSION, EXCELLENCE, PERFORMANCE

Ferrari World Abu Dhabi: It's the first Ferrari-themed attraction and the largest indoor theme park in the world. Step past the main gates into an intense multi-sensory experience celebrating all things Ferrari. Go behind the scenes on race day. Immerse yourself in the history of Ferrari and the beauty of Italy. Feel the acceleration rush of an F1™ race car and the rocket-force Gs that go with it.

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IMMERSE YOURSELF

Meet a dinosaur, join Maid Marion on an adventure or take part in a 7Di game. Kathleen Whyman looks at some of the latest offers meeting the demand for interactive, immersive experiences

ALTERFACE'S 5DI (INTERACTIVE CINEMA)

Players shoot at the 3D screen to collect points

Alterface's 5Di (Interactive Cinema) takes 5D theatre one step further by adding a gaming element. The Belgian company's latest turnkey solution is a shooting/scoring game for groups of nine to 40 players in a 5D cinema. Stereoscopic 3D images are used with in-room special effects (wind, water, light effects, gobo light and strobe light), seat movements and an optional "butt kicker".

During the four-minute show, players shoot at the screen to collect points, while special effects and movements try to distract them. At the end, a light is shone on the best and worst players and their pictures are displayed on the screen.

Content and communication manager Olivier Vincent explains the theory. "The 5Di has been designed as a multi-content platform. It's like a giant Xbox or PS3 to be played in a group with special effects and seat movement." Alterface has a large portfolio of themes including a western, an eco adventure on the sea, a photo safari, a sci-fi adventure with real-time CGI and a dinosaur-themed game. The company is creating new contents all the time and extending its portfolio through third party content providers.

Vincent is confident the game will continue to develop. "Using a Unity real-time engine support is an important step, making the 5Di platform a reference for out-of-home group gaming," he says. "Other real-time engines will be supported in the future. Our technology is highly flexible and easy to adapt to any technical evolution."

MIRAGE3D'S NATURAL SELECTION

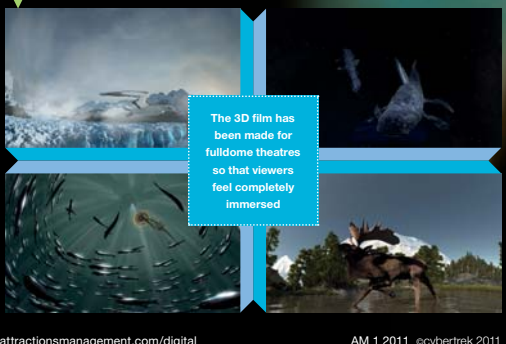
The world premiere of Mirage3D's *Natural Selection* took place in Macao Science Center's planetarium in December 2010.

This is the Dutch company's second full-length, 3D stereo, fulldome video film – the first was *Dawn of the Space Age*. Mirage3D's founder, Robin Sip plans to continue working in this medium: "To me, 3D stereo, fulldome video is the future for total immersion of a large audience."

Viewers are immersed in the experiences of the young Charles Darwin on the voyage of the Beagle, which led to the discovery of evolution and natural selection.

"Due to the 360 degrees immersive experience, combined with the 3D glasses, visitors experience the beauty of the voyage of the Beagle, as if they're really there," says Mirage3D's founder, Robin Sip. "They could almost be with Darwin while he's discovering and explaining his theory of natural selection."

● How it works: The immersive 3D stereo, animated film in 4K resolution has been created in 3D, fulldome film for digital domes at planetariums. Two 41-minute, 360-degrees fulldome films are projected simultaneously – one for the left eye and one for the right.



The 3D film has been made for fulldome theatres so that viewers feel completely immersed

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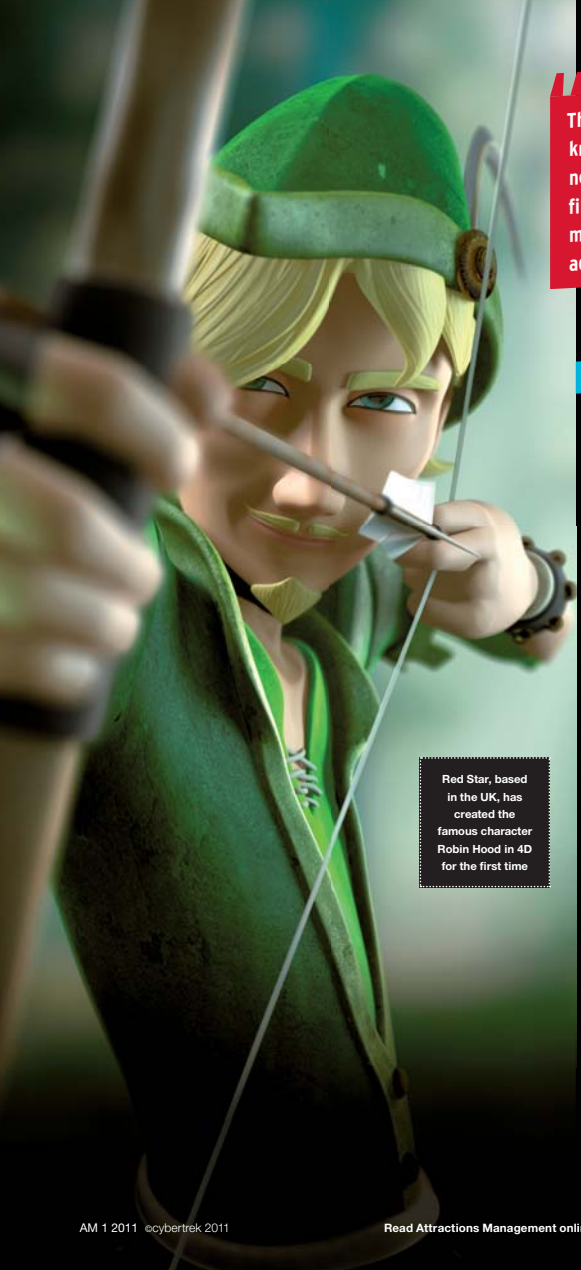

Red Star, based in the UK, has created the famous character Robin Hood in 4D for the first time

> The fact that Robin Hood is known worldwide enables us to not only sell a fantastic family film, but also to provide quality merchandise that will create additional revenue streams

ROBIN HOOD GOES 4D THANKS TO RED STAR

A 10-minute 3D/4D film based on the legendary outlaw Robin Hood is the latest offer from Red Star.

The action adventure for all the family takes viewers on a journey with Maid Marion as she plunges into a world of excitement and falls for the dashing, reckless outlaw.

This is the first time Robin Hood has been created for a 4D attraction and creative director Ben Smith has enjoyed bringing the character to life. "We've got loads of great 4D effects tied into the action in the movie," he says. "3D arrows fly out of the screen, the scent of apples fills the room as Robin Hood sends them spilling over the floor, viewers will feel the wind in their hair as he flies through the air on a rope, and be splashed with water as barrels go flying."

The film has been produced to be compatible with the 4D and 5D effects fitted in most 4D attractions, including water splash, aromas, wind blasts, seat drops, leg tickle, smoke, vibration, lumbar poke and seat movements. As with Red Star's other films, there will be a tie-in website for the film at www.robinhood4D.com, which will promote the film and expand the experience so people can enjoy additional content at home.

"The brand recognition of Robin Hood is immense," adds Smith. "Everyone knows who Robin Hood is and they know exactly what to expect from a Robin Hood 4D attraction – action, adventure and romance."

Pauline Quayle, director of brand extension and company licensing firm The Juice, which is working with Red Star, agrees. "The fact that Robin Hood is known worldwide enables us to not only sell a film encompassing quality, a great story, entertainment and humour, but also to provide quality merchandise that will be easy to sell. This adds value to the theatre selling the film and creates additional revenue streams."

TRIOTECH LAUNCHES 7DI DARK RIDE

Bringing a new perspective and experience to the entertainment industry by throwing a group of people together in a giant, real-time, 3D interactive game is the aim of president and founder of Triotech, Ernest Yale. And he's confident he's achieved it with the company's 7Di attraction The New XD Dark Ride.

"We've used many innovative technologies including our award winning XD-Motion system," Yale says. "The competition feature between players and the cutting edge 3D graphics make it an incredible multi-sensory interactive attraction for the whole family."

The New XD Dark Ride's seven dimensions are real-time 3D stereoscopic graphics, special effects, surround 360-sound environment, a curved screen, a winner-loser scoring system, multiple interactive adventures and a gun system. Developed wholly by Canadian company Triotech, Yale plans to continue working on the hardware, software and creative aspects.

The ride was launched at IAAPA 2010 along with Triotech's XD4 Theater. Designed for operators who have limited space, the XD4 is equipped with a smaller, lighter structure and double seats. In contrast to the standard XD Theater, this compact version, which ranges from six to 106 seats, can be assembled by the client. "This is an alternative for smaller venues where customers are looking at a more affordable investment."

Triotech will be releasing three films a year for each attraction based on the themes of a western, a haunted ride and a safari.

Triotech launched its 7Di attraction, The New XD Dark Ride, and its XD4 Theater at IAAPA 2010

SIMWORX PROVIDES 3DEGREES OF FREEDOM

Simworx's 3DOF experience plunges visitors into the story

The MOSI (Museum of Science & Industry), Manchester, UK, has added a new entertainment dimension to its offering with the introduction of a 4D effects theatre from Simworx.

Situated in one of the five redeveloped warehouse buildings which make up the museum premises, UK-based specialist Simworx has installed a 30-seat theatre incorporating its 5D seats which provide a full 3DOF (degrees of freedom) motion axis action. Simworx also created a custom grandstand seating structure with motion seats for the theatre, built over some original steps in the building. Visitors experience a range of effects including wind, bubbles, special effects lighting, low smoke and surround sound.

The MOSI theatre incorporates Projection Design high definition projectors to show two nWave produced films – *Fly Me to the Moon* takes visitors into space aboard Apollo 11 and *Pirate Story* involves treasure and a pirate's curse.

Suitable for all the family, the 15-minute films are available as an additional pay attraction, with Simworx and the museum operating the theatre on a revenue share basis. "The project represents a £250,000 investment by Simworx," says managing director Terry Monkton, "and takes us further into the realms of operating."

KRAFTWERK ANALYSISES THE TRENDS

Kraftwerk's managing director, Markus Behr, advises that immersive experiences are the way forward, as shown by the trend for domes and 360-degree surround experiences.

"Operators of large attractions who want to stand out are installing180- or 360-degree screens or domes," he says. "This kind of projection will make the attraction more immersive, but creating custom content is costly." For smaller venues, Behr suggests another strategy. "The standard 16:9 screen is a must if operators want to be flexible in playing a variety of existing content which can be licensed," he says.

Kraftwerk is showcasing its expertise in both areas with a 4D dome opening at Alfa Park in Rome in the spring, the introduction of a 12-seater Moovid unit and the opening of the first 4D waterpark attraction (profiled in AM Q4 10) at Austria's biggest waterpark Aquapulco.

Markus Behr

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- Shipra World, Agra (IND)
- Gold Reef City, Johannesburg (RSA)
- Zoomarine, Albufeira (POR)
- Jawa Timur Park, Jawa Timur (INA)
- Bobbejaanland, Kasterlee (BEL)
- Gardaland, Castelnuovo del Garda (ITA)
- Slagharen, Slagharen (NED)
- Jesperhus, Nykøbing Mors (DEN)
- Kamori Rusutsu, Hokkaido (JPN)
- Tibidabo, Barcelona (ESP)
- Lotte World, Seoul (KOR)
- Agat Asia, Almaty (KAZ)
- Misa, Kuala Lumpur (MAS)
- Happy Valley, Shenzhen (CHN)
- Bogor Nirwana Residence, Jakarta (INA)
- NP-Zentrum Kellerwald, Vöhl-Herzhausen (GER)
- AIDAbella (OCEANS)
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- Gondwana Prähistorium, Schiffweiler (GER)
- Galeria Bran, Bran (ROM)
- AIDAluna (OCEANS)
- Costa Luminosa (OCEANS)
- City of Dreams – The Bubble, Macau (CHN)
- City of Dreams – Virtual Aquarium, Macau (CHN)
- Aviation Pavilion, World Expo 2010, Shanghai (CHN)
- Austrian Pavilion, World Expo 2010, Shanghai (CHN)
- Shanghai Pavilion, World Expo 2010, Shanghai (CHN)
- Futuroscope, Poitiers (FRA)
- Madam Tussauds, London (GBR)
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Dinosaurs appear on the handheld devices as though they are in the studio with the visitor

CASE STUDY

WHO DO YOU THINK YOU *REALLY* ARE?

The Natural History Museum uses 3D to bring extinct creatures to life. Claire Gilby describes the experience

WHAT IS WHO DO YOU THINK YOU *REALLY* ARE?

It's a 45-minute film with 3D elements shown in the Attenborough Studio at The Natural History Museum, London, UK. The interactive film tells the story of how humans have evolved and how we're related to a whole range of living creatures – we even share a significant amount of DNA with a banana.

Three independent screens – the main one is 2.4m (8ft) and the peripheral screens are 1.8m (6ft) wide – web cams and specially designed handheld devices enable visitors to take part in a virtual journey back through their evolutionary past. Augmented reality allows computer generated 3D animations of Coelophysis, Homo erectus and an intricate tree of life to "appear" in the studio.

WHAT IS THE VISITOR EXPERIENCE?

The film is presented by Sir David Attenborough, who introduces the audience to the handheld devices next to their seats and explains how to use them. The film is very interactive and requires the audience to participate by using the handset to send images to screens around the studio, interact with scientists, play with virtual specimens and take part in quizzes.

During the film, scientists give visitors virtual gifts. These can be accessed online along with additional information including augmented reality clips and forums.

WHAT TECHNOLOGY IS USED?

The interactive film, which cost just £180,000 (€213,200, US$287,600) to make, uses three HD projection screens and a full colour lighting setup. The hardware is controlled through a Medialon show controller and the interactive content uses a combination of Adobe Flash, a custom AR program, custom Java software and a SmartFox chat client to trigger, sync and transfer user content between the handhelds and a master PC. This generates the graphical poll results and photo collage that's projected onto the large screens. We invented the hardware and software system ourselves.

HOW IS CGI BLENDED INTO REAL LIFE?

In collaboration with the BBC and the museum development team, we've created Augmented Reality (AR), which brings ancient species to life within the Attenborough Studio. AR works by mixing a live video image with computer generated imagery – in this case, 3D animations of our extinct ancestors and relatives.

By working out the position of its camera relative to the room, these models are rendered as living, breathing specimens, anchored in the real space at the correct orientation for anyone looking through the interactive handheld screens.

The AR uses life-like animated 3D models that realistically map onto the video image on the handheld, creating a real sense of presence in the space with the audience.

WHICH SUPPLIERS DID YOU WORK WITH?

Our Interactive Media and Special Effects teams at the NHM worked with the BBC (British Broadcasting Corporation) Natural History Unit, BBC Research & Development, Cultural Innovations, IVC, Melford Electronics Ltd, Pentagram, Shadow Industries, TraceMedia and the Wellcome Trust to develop the interactive film. ●

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(Far left) Antenna's Gauguin app for Tate Modern; (left) BarZ's GoExplore Travel & Tour Guides; (right) Dataton's discreet Pickup audioguide offers excellent sound quality and ease of use

PHOTO: PIOTR MALEWSKI, MOOV

SMART DECISIONS

With the sales of mobile devices increasing, and downloadable apps becoming more popular at attractions, Kathleen Whyman asks the experts what impact this is having on the audioguides industry

MATTHEW VINES
Marketing & communications manager, Antenna International, UK

"The purpose of the audioguide is to learn more, satisfy our curiosities, gain a deeper understanding and discover something new. None of that has changed. What has changed is that the term audioguide doesn't adequately describe the product or industry anymore.

We're in the business of creating engaging experiences for visitors, whether physical or virtual. To do that you have to take into account what the person is seeing and experiencing around them at the moment they're digesting that content. So, for us, the experience design approach becomes very different for an on-site experience compared to a remote one, such as a smartphone application.

Mobile devices allow operators to push their message and voice out to people who might not be able to visit their attraction. Content digested in this way can be seen as a marketing tool, encouraging physical visits or preparing for a visit. It allows the user flexibility and enables the operator to communicate to people after their visit.

Downloadable content to a mobile device can suit all types of attractions, depending on its interpretation or outreach goals, but it can work particularly well for outdoor sites that are often unstaffed and unable to offer dynamic forms of interpretative content.

Despite the leaps forward in technology and software, the audioguide is here to stay. A bespoke, purpose-built handheld multimedia player meets many objectives from interpretation and accessibility to technical simplicity and peace-of-mind maintenance. Traditional audioguides can also be particularly good for very popular temporary exhibitions where carefully paced content can regulate and choreograph visitor flow and help to avoid overcrowding or bottlenecks.

In an ideal scenario, attraction operators will offer both. Then, some of the content produced for an on-site guide can be reused in other forms, for example through a downloadable smartphone application, which is complementary to the client's main interpretation channel and meets other objectives, such as marketing."

ANDREW NUGEE
CEO, Imagineear, Ireland

"The increasing availability of personal devices represents a tremendous opportunity for the cultural interpretation industry and visitor attractions themselves. The cost of providing tours onto personal devices is generally lower than providing tours on rental players, and the visitor has a tour to keep and use again if they revisit. Plus, through a mobile phone, an attraction can connect to visitors before and after they actually walk through the gates.

However, the visitor has to download the tour, which can take time, depending on the file size, and the number of other people trying to download the tour. They might

not have enough space for another app on their phone or be concerned about poor battery life. It can be expensive too, especially if the visitor is roaming from another country. And if the operator offers a free wireless network to avoid these roaming charges, they risk other users piggy-backing on the network, clogging it up, slowing it down, and therefore offering a poor experience to their visitors.

Traditional rental devices have the advantage that they're used within a controlled environment where hardware and content changes can be planned and executed simply. They are reliable, have two sources of power, in case one runs out, and also have a much lower lifetime cost.

What's right for an individual attraction depends very much on the nature of the site. Ungated environments are ideal for personal devices as 'rental and return' without gates to funnel and control traffic is too expensive. Also, success is measured in absolute numbers – how many people download the tour, not the percentage that do. Gated environments care about the percentage of people who take the tour because they work hard to build great content and want the maximum number of people to take it. More prosaically, if they attract any public funding it looks bad to say they have a great tour, but it's only available to the 20 per cent of ABC1s who have an iPhone 4. Even for more commercially-minded operators, as it stands today, offering players for rental is still the best bet for generating a financial return in the short-term.

Imagineear's devices are designed specifically for use in attractions with two headphone sockets, two sources of power and a lower lifetime cost

For this reason, although the penetration of personal devices will rise fast and although smartphone users will increasingly take the tour on their own phones, not all visitors will have or will want to use their own device. Gated sites will therefore be obliged to source an alternative rental device for some time. Traditional audioguides won't become defunct for a long while yet, and smartphones will never be 100 per cent of the solution, but over time, the market served by rental devices will become smaller and the providers will be forced to consolidate or go out of business. While there are challenges for us in all of this, the opportunities are so much bigger."

BarZ's GPSRanger (right) is a handheld GPS-based multimedia and video guide, which embraces smartphone app technology within the traditional format of an audioguide

LARS SANDLUND
Sales manager,
Dataton,
Sweden

"The growing popularity of smartphones means that people are starting to take it for granted that they can always access the latest and most relevant information, wherever and whenever.

That has a major effect on the audioguide industry – not just because mobile devices have become a complement to traditional audioguides, but also because it has changed the demands visitors make on content. Visitors like to feel that the information is tailored for them and is up-to-date and relevant. This means museums have to be more pro-active in the way they work with their productions and be ready to quickly adapt the content on demand.

The advantage with mobile phones is that visitors get to use their own gadgets, which they know how to use. It also makes it easier for desk staff, as they don't have to administer distribution or collection, or show visitors how to use the guide.

On the other hand, there's still a large proportion of museum visitors who don't own mobile devices, or know how to use them. As a museum, it's a pity to effectively exclude a large group of visitors from accessing information, simply because they don't have the right kind of phone. With smartphones, there's also a risk that visitors will get distracted and shift their attention from the exhibition to their phones – checking email, sending texts and surfing. A simple and user-friendly audioguide doesn't distract the visitor to the same extent. Audioguides are accessible to everyone and generally offer better sound quality compared to smartphones.

There will always be a place for products that let people assimilate information easily, thereby enhancing their experience. The entry of mobile phones into the industry will lead to a rise in the level of technology and ease of use in existing systems."

SUNNY SMITH LOZANO
Marketing manager,
BarZ Adventures Inc, US

"Many operators are embracing mobile technology and recognising that smartphone users – the young and the affluent – are an attractive market. Despite this, operating system changes are ever-present, creating a slightly unstable software platform. Also, there's a large section of the population that doesn't own smartphones. Consequently, the majority of our attraction customers want to offer both, through a combination offering of rentable handheld devices and apps.

Mobile device tour apps offer the advantage of convenience but have limited battery life, particularly if an app utilises media files and location-based services. Audioguides are rented out fully-charged, so battery life won't be an issue.

Attractions that have a central pick-up and drop-off location and want a clear-cut revenue stream are best suited for a rentable audio/video guide. These locations can ensure rental revenue through measures such as bundling the price of the rental into the price of admission. Attractions with a younger or more affluent audience that aren't concerned with creating a revenue stream with the tour, so offer the app as a value-added guest service, or sites that aren't laid-out in a format for the efficient rental and return of physical devices, may be best served with a mobile device app."

JAN MAARTEN DE RAAD
Managing director,
Jora Vision,
The Netherlands

"We see a very good future for mobile devices because they can be developed and updated much more easily than audioguide content.

But there's still a market for audioguides. They're easy to use, cheap and there's a large group of older customers who don't have access to the latest mobile devices. Also, using the internet within Europe is expensive and currently it can be difficult to download apps outside your home country, although this will probably change soon. There's also the risk of being interrupted by phone calls with a mobile device.

A good option is for operators to give out an iPod Touch. This is ideal for both audio and visual presentations, so is particularly good for museums where, without a visual guide, the visitor doesn't always fully understand what they're looking at."

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(Right) Ideum's use of QR Codes enables owners of smartphones to scan the digital media or signage at an exhibit. This navigates them to websites and source materials so that they can find out more

CASE STUDY: ADVENTURE SCIENCE CENTER, NASHVILLE, US

Jim Spadaccini, director of Ideum talks about his latest project

"Last year, we created a multi-touch, multi-user exhibit with Adventure Science Center, Nashville, US. We then developed this using QR Codes with links to Wikipedia entries.

QR Codes are matrix barcodes that can be read by various QR scanners, many of which are available in smartphones. The codes are small and discreet, so can easily be added to digital media or signage. Any user with a smartphone can use a barcode scanning app to scan the QR code, which can then navigate to websites, source materials, teacher guides and commentary. Users can also choose to share the link with friends via social networking sites or email. They are therefore an easy way to incorporate a mobile exhibit component which allows visitors to view and share more information about exhibit objects or media items.

The codes can be used with a system that links to visitors' email account. This allows them to receive a custom email with information about exhibits they found interesting. The codes could also be used in some sort of digital scavenger hunt or tied directly into exhibits allowing visitors to comment or vote or interact with stationary exhibits.

I don't know of any other museums that are using this technology yet. If operators provide the devices, they wouldn't need to rely on visitors owning their own smartphone.

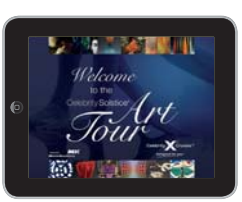
We're currently incorporating QR codes into all of our software modules on Open Exhibits. The Open Exhibits project is a community that creates and distributes free multi-touch and multi-user software for museums. The project has funding from the National Science Foundation and is now underway."

MARK GILICINSKI, FOUNDER
MobileXpeditions, Ireland

"In the next few years, mobile will become the dominant computing device that individuals use. This trend means more and more individuals have a device capable of multi-media guides and interaction. In time, this will mean the demand for loan devices will lessen, assuming content is available for the consumer devices.

Software on a visitor's own device means a venue's brand can live beyond a visit, and information can extend beyond the physical venue. For example, a museum could provide tours of public artwork in the region surrounding its facility. Devices such as the iPod Touch could work well as loaner audioguides here.

We don't believe audioguides will become defunct. Their capabilities will evolve like other technologies and will be able to fulfill needs that personal devices won't cover. However, they'll need to include greater interactivity. Current solutions are mainly passive. As technologies evolve, new experiences and features will be possible, including image recognition and augmented reality. Greater interactivity will also include interactions with other visitors, both at a venue and away from it."



MobileXpeditions' mobile solutions extend the experience to tours in the local communities

DAN MEDICOFF
Director, OOKL, UK

"The increase in mobile devices is having an effect on audioguides, but it's very early and I don't think the effect has been great yet. If the audioguide industry is struggling, it's due to other factors – mainly economic.

The advantage of mobile devices is that apps can be promoted anywhere within the attraction, not just at the front desk, so there's a higher possibility of take up. Also, the inclusion of video footage makes them a powerful tool. However, fragmentation of operating systems makes it very hard to build one experience that works reliably on all phones, and not all users have free airtime, which can increase the cost.

Audioguides have a proven user acceptance, but have a higher cost for the venue, which has to handle the hardware, has the risk of devices being lost and needs to train staff. The operator's also dependent on production companies to produce content when the exhibition changes.

Audioguides' real strength is in sites that have very large volumes where staff can be dedicated to handling the customers and handsets. They work well in attractions with visitors from abroad who don't want to use their mobile because of very high roaming costs. Venues with no or poor reception will also rely on audioguides.

Producing great content for audioguides is a skill and not many venues have internal capabilities. In time, the industry will create a model which involves a mix of content (created by users/venues/media companies) and devices (the user's own device or leased devices). Audioguide companies will adapt to a shrinking hardware market by making great quality content.

For the 90 per cent of venues that don't offer any visitor interpretation tools, providing smartphone-based solutions increases their offer, so is something they'd definitely benefit from considering." ●

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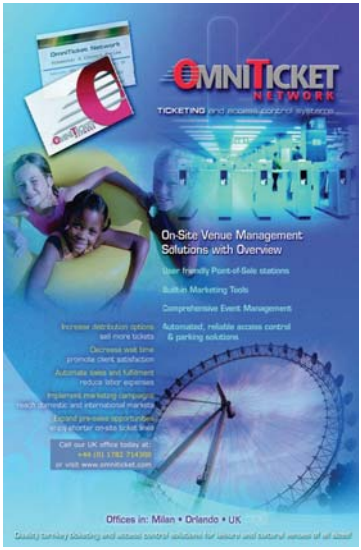

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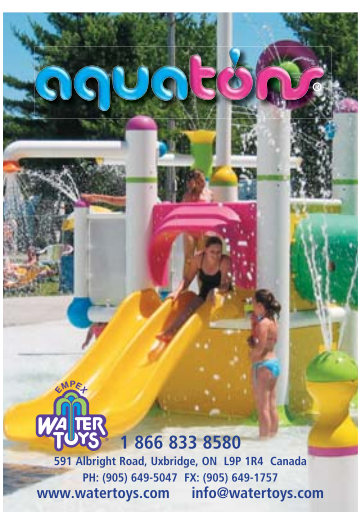

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Water rides round-up

Polin launches two double tube rides

Polin Waterparks & Pool Systems, Turkey, has launched two worldwide patent pending water rides – King Cobra and Racer Twin Turbolance.

After launching King Cobra at IAAPA Asia in July 2010, the first one will be installed in Russia in May 2011 with another to open at the luxury resort Maxx Royal Waterpark, Belek, Turkey, which is currently being built.

The core feature of the ride is its configuration that enables two double tubes to race in synch through a circular path with twists, turns and an 8m (25ft) drop at 51 km per hour. Riders are then "swallowed" into the mouth of the cobra before plunging down a waterslide.

Polin expanded its Racer Series with Racer Twin Turbolance – a circular racing tube slide. One has already been sold to a waterpark in France.

fun-kit.net KEYWORD **polin**

Interlink supplies Super Flume to Indonesia

Ride specialist Interlink is supplying a two-lift Super Flume for an indoor leisure project in Transstudios Bandung, Indonesia, which will open this year.

The attraction's double-seat, Zodiac-style boats were designed for the client, but will become available to others on future ride installations.

The Super Flume will feature two lifts and two chutes, one 3m (10ft)-high and the other 9m (30ft). The length of the ride will be approximately 277m (910ft), with the station section being 12m (40ft) in length. Water speed will be 1.5m (5ft) per second. The seven, six-seater boats will be circulated by an induced current. The ride, which can hold 42 people at a time, will be fully themed in an Aztec style, incorporating a large volcano feature, rock work and related décor and surroundings.

fun-kit.net KEYWORD **interlink**

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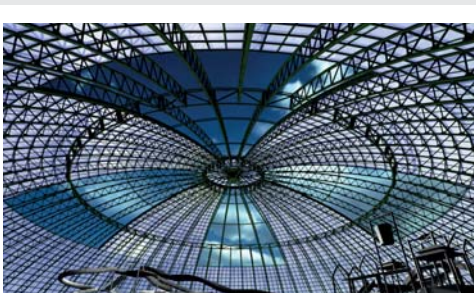


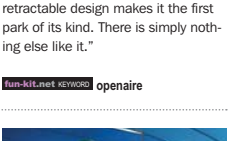
OpenAire builds world's largest retractable dome

OpenAire is currently building the world's largest retractable aluminum dome for the Royal Marine Aquapark in Donetsk, Ukraine.

Scheduled to open in August 2011, the park is a joint venture between the City of Donetsk and private sector investors. Designed by WhiteWater West, the idea for the park was conceived when Donetsk was announced as one of four Ukrainian cities that will co-host Euro 2012. The Royal Marine Aquapark will serve as a new attraction for residents and tourists for Euro 2012 and beyond. The dome features eight quadrants – four of these quadrants will roll over the remaining four fixed quadrants to open the roof. "At 26m (86ft)-high and 85m (278ft) in diameter, it's the largest free-standing aluminum dome structure in the world," says OpenAire president Mark Albertine. "The retractable design makes it the first park of its kind. There is simply nothing else like it."

fun-kit.net KEYWORD **openaire**

Galloway introduces toddler activity centres



Galloway Industries in New Zealand builds water playgrounds for children up to 12-years-old. One example is Birrong Park, Sydney Metro area, New South Wales, Australia.

The modular, multi-level, multi-deck structure offers an array of water effects including a curved slide, water chute and spiral slides with their own slide or shower sprays. Additional features are an arch climber, tipping bucket, shower curtain, a deck-mounted and stand-alone water cannon, a whale ride, tripple nozzle pillar showers and a water pirouette.

The medium-size park can cater for 50 children at a time, but the structure can be enlarged by adding modules. The play area is designed, engineered and manufactured using low-density polyethylene with Galloway's colour core process.

fun-kit.net KEYWORD **galloway**

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Arihant showcases its own park

Founded 25 years ago, Arihant Industrial Corp is the largest Indian manufacturer of playgrounds, specialising in water slides and equipment for waterparks, to the extent that it owns and manages its own waterpark.

Located in Virar, in central-western India, the Great Escape park covers more than 10 hectares – half with slides, pools and lagoons, all of which have been developed by Arihant.

Specialising in themed attractions, the most sought after are Egyptian, jungle and pirates. These themes were incorporated into projects completed last year at JukuPark in Turku, Finland and in Qatar's first waterpark, Aqua Park Doha. Arihant also supplied equipment to the largest outdoor water park in the UAE, Iceland Waterpark.

fun-kit.net KEYWORD **airhant**

Empex launches Aquacircus

Empex Watertoys has created a new line of interactive Watertoys under the trademark Aquanetics. Children can produce sprays, water flows, and kinetic effects such as turning pelton wheels, spinners, gears and pinwheels to create "a zany effect of water motion". Aquawizz, Aquanoodle, Aquaswirl and Aquamill are four new structures in the Aquanetics line.

Incorporating several Aquanetics structures in a new expanded curvilinear Aquadek, Empex has created its latest concept, the Aquacircus, for Beachpark Waterpark in Fortaleza, Brazil. The 7,500 sq ft (700sq m) climb and slide structure provides a number of different slide experiences and 45 creative activities. Aimed at families with children up to the age of 12, Aquacircus includes Aquaclunes, which are spray clowns, and Empex's signature Aquatons spray features.

Designed as a modular system, it can be increased or decreased in size depending on the area available. Fabricated from composite and specialty plastics, Aquacircus offers a lifetime corrosion warranty.

The structure has two main water feeds under the deck which are distributed to the different events on the play area. All features are controlled and moved by redirecting water flow.

fun-kit.net KEYWORD **empex**

Three new Body Rides from Australian Waterslides & Leisure

fun-kit.net KEYWORD **australian waterslides**

Australian Waterslides & Leisure Pty Ltd has designed three Body Rides for Tea Tree Gully Aquatic Centre in Adelaide. Two of the rides are 800mm-diametre tube and open Fast Straight Line Drop slides. The other is a combination of 1,200mm diameter tube and open Reverse-banked SupaJet slide.

On the straight line drop slides, riders are plunged down a 9m (30ft) drop at 45 degrees before landing into runouts. The rides have a minimal water delivery (20 to 30 litres per second) to lubricate the rides, making them faster as well as more environmentally friendly. The company wrote its own flume calculation software programme integrated with AutoCAD to enable safe and exciting configurations to be designed accurately and utilising 3D modelling.

All rides can give a different experience for the riders – in the case of body rides, the ride experience can differ due to the type of swimmers the ride is carrying (giving a varied co-efficient between ride surface and the rider) also due to water volumes, and rider weight. All rides are designed so that the rides fall within the safety parameters of all variables. ●

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trends in leisure and entertainment

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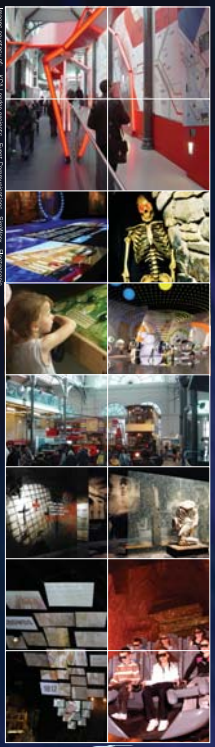

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london transport museum

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